

THE AUTOMOBILE

WEEKLY

NEW YORK — SATURDAY, MARCH 26, 1904 — CHICAGO OF CO.

10 CENTS

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The record of 1 mile in 46 2-5 seconds, made by the Four-cylinder **PACKARD "Gray Wolf"** at Daytona, Fla., Jan. 3, is the **world's record** on cars of the Voiture Légère class.

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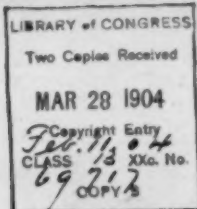
511-517 Seventh Avenue, New York.

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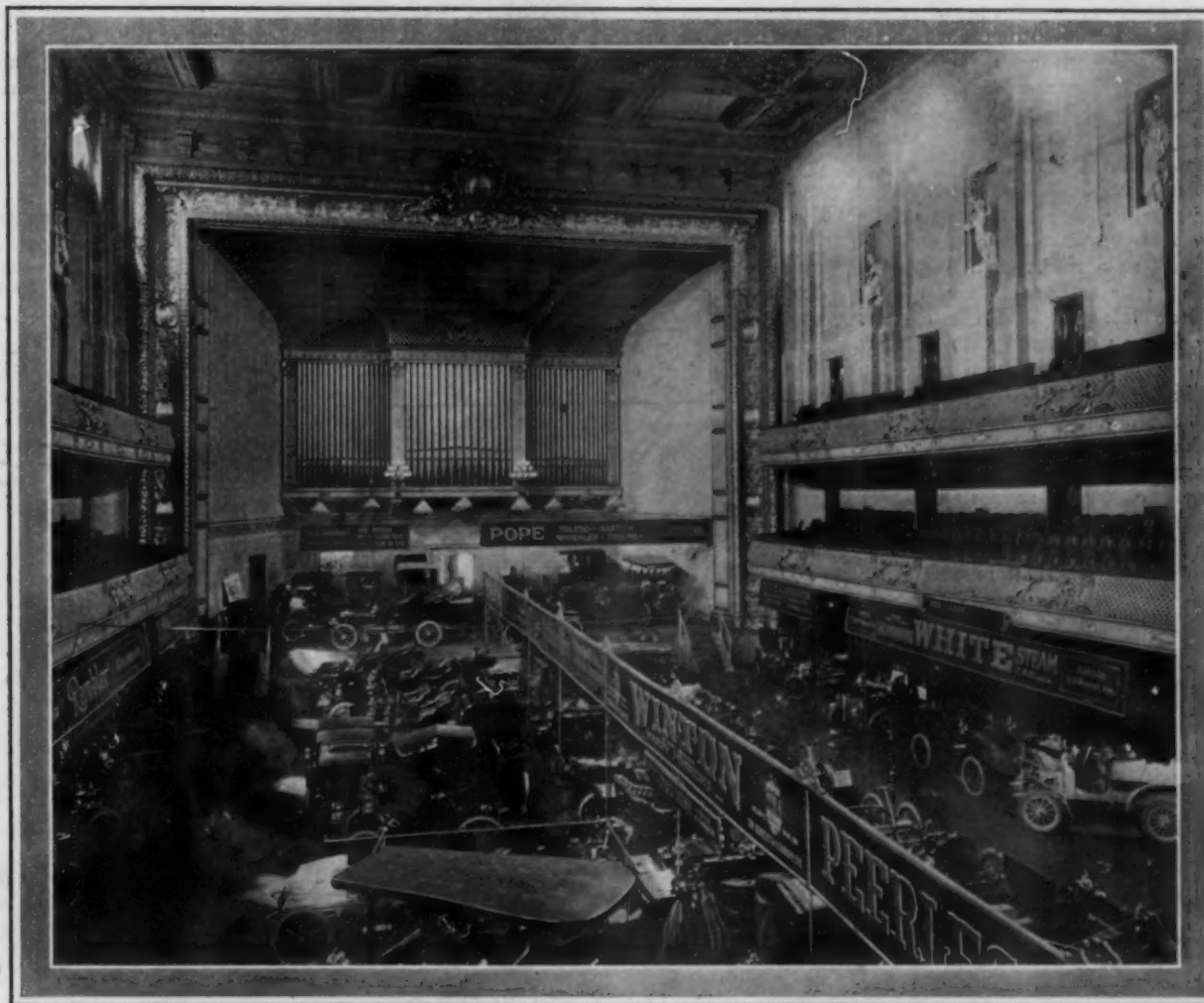
DUAL SHOWS DELIGHT NEW ENGLANDERS.

Special Correspondence.

BOSTON, March 21.—Boston's automobile week, just closed, was counted by both the local dealers and the visiting manufacturers as a really

ings in the city that are accustomed to fashionable assemblies; a total of paid admissions to the former that foots up fully 12,000 and is nearly double the total

French and English cars, including the Napier for its American début; a marked revival of interest in steamers and electrics; and a splendid start at arousing popular



GENERAL VIEW OF PART OF SYMPHONY HALL, BOSTON, DURING AUTOMOBILE SHOW, MARCH 7 TO 12.

remarkable demonstration of automobile interest and enthusiasm. Two fine shows opened simultaneously in Symphony and Horticultural Halls, the two finest build-

attained at the dealers' first show a year ago; an unusual display of cars that had never before been publicly shown or which were new to Boston; a good display of

sentiment in favor of auto-boating—all of these combined to make this dual exhibition the best outside of the two big national affairs.



LONG LINE OF DEMONSTRATION AND VISITORS' CARS IN FRONT OF SYMPHONY HALL, LOOKING TOWARD WASHINGTON AVENUE.

Whether or not in actual sales as much business was transacted as at the first show of this Boston Dealers' Automobile Association a year ago, when an auto show in Symphony Hall, the home of the Boston Symphony concerts, was at best a venture, is a question; but the facts seem to be that whereas not so many checks for machines purchased are in hand now as could have been shown at the end of the exhibition last year, the business counted as "in sight" as a result of this show is considerably greater than that of a year ago. Boston has just had the hardest winter in thirty years, and with all New England deep in snow and ice since the week after Christmas, conditions were anything but favorable for automobiles. There was no incentive for people to seek demonstration rides before and during the show, for either the streets and roads were too soft and too much broken up, or the raw wind and low temperature interfered. The dealers found in the show crowds, however, the guarantee of a tremendous enthusiasm for automobilism in the coming summer, and after spending more money in exhibits and advertising than was ever used in a similar exhibition here in Boston, they are confident that the business will warrant it just as soon as the weather becomes pleasant. As one leading branch manager put it when the show was half over: "If you talk 'money in hand,' I haven't sold a car; but it would be perfectly true to say that I can see twenty or twenty-five sales from this week's exhibit."

TREND OF PUBLIC INTEREST.

One interesting feature of the show was the large number of visitors from up in New Hampshire and Maine. Both of these States have recently begun to take an interest in forming automobile clubs, and their representatives came to Boston in many instances prepared to place orders; in fact, the actual sales at the show seem

to have been made largely to this class. Boston people went to look over the cars with a rather critical eye. The Boston public is not yet trained to a technical knowledge of the automobile, but it has been educated since a year ago and is far enough advanced to look for the latest designs and to demand the most improved types of motor. The up-country visitors are about where the Bostonians were last year, to judge from show experiences. One dealer said: "The cars my Boston customers of a year ago used last summer for touring up through the country districts of New England are selling my cars this year." This demand was practically confined to the moderate-priced touring models and the light, low-priced cars. The Boston folk showed an interest in the light cars, for everybody seems to be looking out for good things in that class; but they also took particular interest in the new foreign cars, and as a rule, in all large cars. It is evident that Boston has its group of experienced automobilists who have caught something of whatever prejudice there may be in favor of French made cars, and the American builders and dealers will have to reckon with that sentiment here. On the other hand, there was a class of visitors at the show who, while having an appreciation for the foreign cars, were ready and able to sort out the American cars on their merits.

HALLS UNCOMFORTABLY CROWDED.

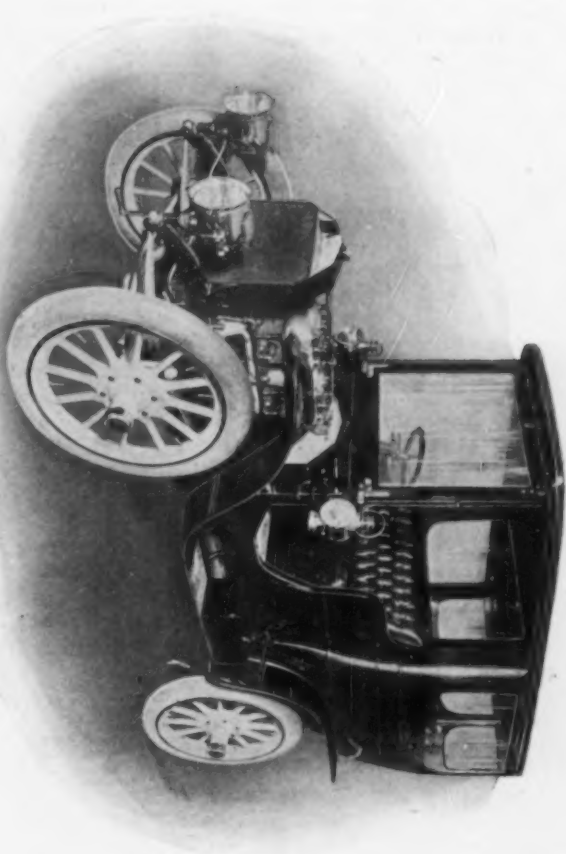
All comers at the show found great inconvenience and discomfort from the crowding of the exhibits. Besides obliging visitors to go outside and cross a broad avenue in the rain or mud to another building in order to see all that claimed attention, the halls were much too small for the number of vehicles displayed. In Symphony Hall were shown 84 cars and 11 chassis, besides half-a-dozen motorcycles. Horticultural Hall contained 36 cars, 5 chassis, 10 motorcycles, 7 motor-launches,

and numerous exhibits of accessories, including automobile robes and garments. As a result the crowds on the opening night and on several other evenings, were so great that one found it impossible to move about except at a snail's pace, and such a thing as a comfortable view of any individual car or chassis was out of the question.

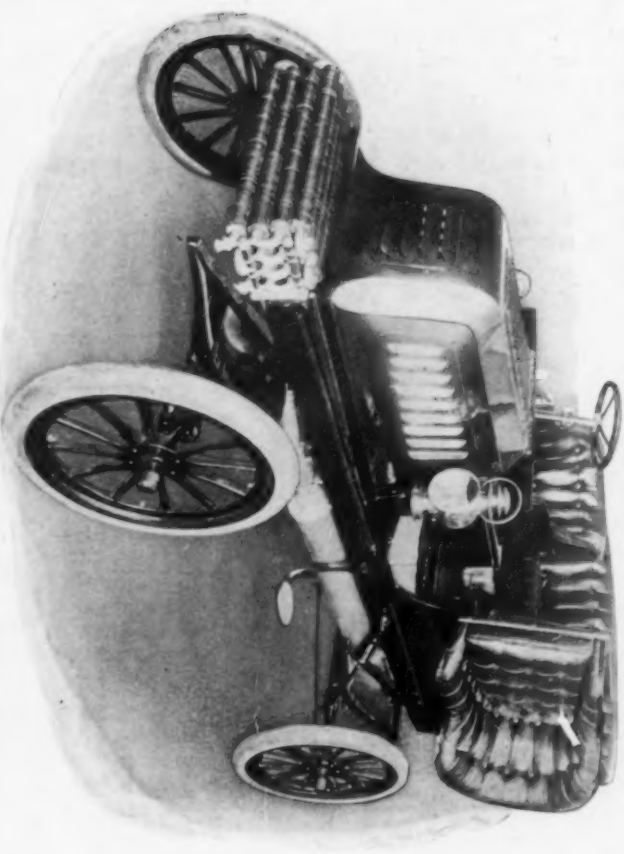
Many dealers foresaw that this would be the case, even before the show, and it appears that there was considerable sentiment in the meetings of the Dealers' Association in favor of taking the shows down to Mechanics' Hall, where the Boston Horse Show and all the big fairs and exhibitions have usually been given. A leaning in favor of Symphony Hall with Horticultural Hall for an "overflow," won the day this year, because of the feeling that these halls would draw an attendance which could not be expected at the larger and more ordinary building down the avenue, and also because of the success of the show in Symphony Hall last year. But the talk at this show has indicated a trend toward Mechanics' Hall for any future exhibitions. The rank and file of the Association appear to be rapidly coming to the idea that more room is needed at any cost, and in this they are backed up by the new factor, the motor-boat interests, who could make little or no display this year in the small spaces accorded them, and who sigh for the generous areas and numerous connecting halls of Mechanics' Building. There is a strong element among the automobile dealers, also, who appear to feel that with the roomier and more "popular" exhibition in the larger building, there would be more sales. Less show and more business is what they would like.

GENERAL ASPECT OF THE DISPLAY.

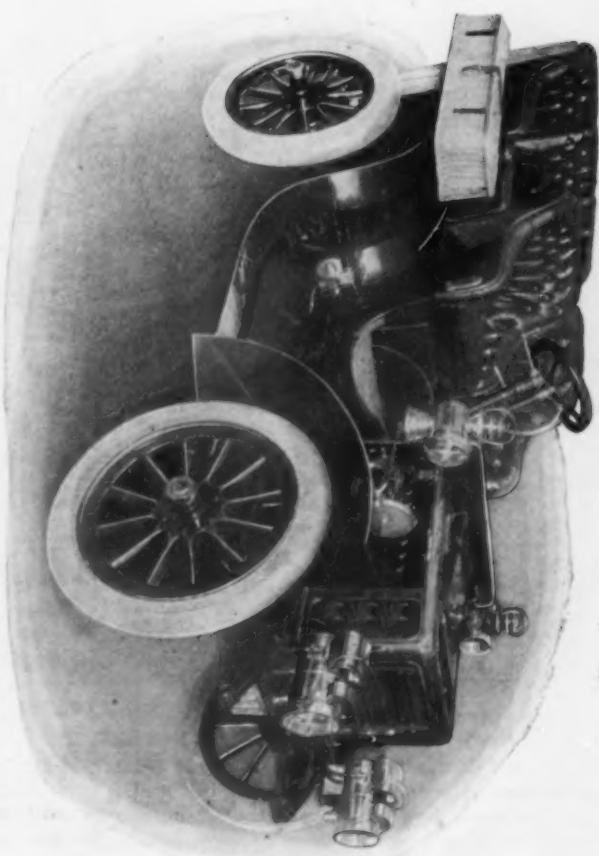
The automobile show proper, in Symphony Hall, was devoid of all decoration except for the signs placed lengthwise of



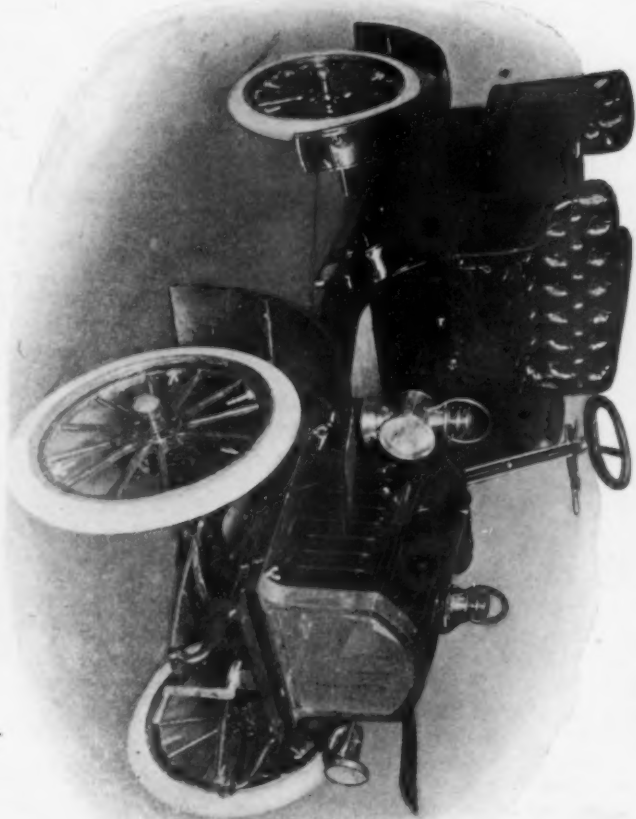
The Lyman-Burnham Limousine Car, with Vertical Four-Cylinder Engine.



American Populaire Light Tonneau, with Front Entrance and Mosler Engine.



Country Club Touring Car, with Pneumatic Speed Change and Hydraulic Governor.



Cameron Light Car with Detachable Tonneau Section.

SOME OF THE INTERESTING NEW EASTERN CARS PUBLICLY DISPLAYED AT BOSTON SHOWS FOR THE FIRST TIME.

the hall and done uniformly in red and gold. A carpet over the entire main floor gave considerable warmth to the scene, but several interested visitors, notably those from the West, said the aspect was "too tame;" that it had too much "sameness;" that it would have been better to have given the individual exhibitors more latitude in the arrangement and decoration of their exhibits. Of the two displays that in Horticultural Hall had a much greater element of the picturesque, partly because the interior was really two halls, one several steps higher than the other, and opening at one end through a kind of broad landing which in itself was large enough to give space to two exhibits. Bunting and flags were freely used here, and the great festoons brightened the vista wonderfully; although it cannot be denied that the same treatment would have made the interior of Symphony Hall appear cheap and tawdry.

LUXURIOUS NAPIER CLOSED CAR.

Each hall had its ante-room exhibit. That in Horticultural Hall consisted entirely of Napier cars, three touring models, and a limousine of such luxurious design and equipment that it was a curiosity even for the initiated. The enclosed section of the body had plate-glass windows all around. Inside there were four leather-upholstered revolving chairs, placed one in each corner; two leaves unfolded from the side to form a continuous shelf or table separating the front and rear pairs of seats. Underneath the shelves, at sides and rear, were small cabinets of drawers, for cigars, cards, or whatever the occupant might wish to have at hand; and in front were racks for writing materials. A flexible speaking tube and whistle communicated with the operator's seat outside, and switches threw in clusters of small incandescents for electric lighting. Such an automobile as this was a revelation to Bostonians of the stay-at-home class. These cars were the ones shown at Paris and London. The room in which they were exhibited was decorated with English and American flags and coats of arms, and on one wall hung a great map of Europe on which was traced out the tour of almost 14,000 miles made by Charles J. Glidden, of Boston, in a Napier car. Mr. Glidden was in personal charge of the exhibit. He is interested in the Napier Motor Company of America, the Boston concern which is exploiting the cars on this side. The Central Automobile Company, of New York, is the importing and selling agent and Mr. Glidden says the plan is first to import the entire car, but as time goes on, to import only chassis, then later still, only the principal parts and special devices.

FEATURES OF AMERICAN POPULAIRE.

Considerable interest was shown in the American Populaire, the new light tonneau car put out by the American Automobile & Power Company, of which Chester I. Campbell, the show manager, is sales

agent. The factories are at Lawrence, Mass., and Landford, Me. The car did not arrive at the show until Wednesday. Its features are the double-cylinder, vertical 12-horsepower Mosher engine, with driving wheel balance between the cylinders to avoid strain on the bearings and minimise vibration; cylinders water-jacketed and exhaust valves air-cooled by the use of tubular stems; and front entrance to tonneau.

Nearby the Crestmobile group of R. F. Coburn was one of the few in the show to include a surrey with the more numerous tonneaus; while just across the aisle the Knox exhibit of the Reed-Underhill Company was distinguished by a handsome chassis mounted on a plate mirror as in the New York show and kept in action by an auxiliary electric connection. This was perhaps the most interesting exhibit of the working parts of a car; but chassis in themselves were displayed at practically every large booth.

A. R. Bangs, who has just moved from the midst of Boston's "automobile row" to a roomy and well-fitted garage on Brimmer Street, near many of the Back Bay clubs, made a handsome showing of Franklin four-cylinder cars, one that attracted special notice being a 10-horsepower runabout in royal blue and yellow running gear, with the rear part of the body made into a luggage carrier with hinged metal covers shutting tightly to keep out dust and dirt. Near him on the same side of the hall, E. A. Gilmore's exhibit of Rambler cars included one of the 16-horsepower touring cars with tonneau and canopy top.

L. J. Phelps showed the Phelps car this year with slightly increased power (it is now 20-horsepower) and with a third speed added. The Phelps last year had only two speeds, the higher capable of taking it up any grade less than 15 per cent., but while this maintained the car's high reputation as a hill-climber, it proved insufficient to meet the demand for fast work on the level. Mr. Phelps has already entered the new car for the Massachusetts Automobile Club's hill-climbing test April 19, and the Mount Washington trials in the White Mountains next summer.

POPE AND SKINNER DISPLAYS.

Among the most showy exhibits were those of the Pope Manufacturing Company and Kenneth A. Skinner, which divided the great stage. Mr. Skinner has added to his popular line of DeDion-Bouton cars, for which he is sole United States agent, a heavier French car known as the Boyer. This is intended to meet the demand for four-cylinder engines. Mr. Skinner intends to use the Boyer car in his renting business, which has grown to extensive proportions in this city. The Pope exhibit was a handsome display of Pope-Waverley electrics, Pope-Toledo, Pope-Hartford, and Pope-Tribune gasoline cars. W. E. Eldridge was in charge,

and he made a special feature of the Pope-Toledo car which won honors in the New York-Pittsburg endurance run. The exhibit was a center of interest not more on account of this car than because it showed a wider range of types and prices in vehicles displayed than almost any other.

THE OLDS' NEW MODEL.

Just in front of the stage was the Oldsmobile booth. Here the feature was the new touring car with tonneau, a departure for the Olds people; but the exhibit also included the well-known runabout, the divided seat runabout that can be easily converted into a touring car, and the railroad inspection car. Benjamin Smith made the exhibit popular by giving away carnations to the women each evening, and when Governor John L. Bates paid a visit to the show Friday afternoon, attended by Private Secretary Frank Hurtubis, Mr. Smith presented the Governor a bouquet of roses.

In the Locomobile exhibit by J. H. MacAlman, was a handsomely-finished 24-horsepower gasoline touring car, with weather-proof canopy, the whole car done in soft gray.

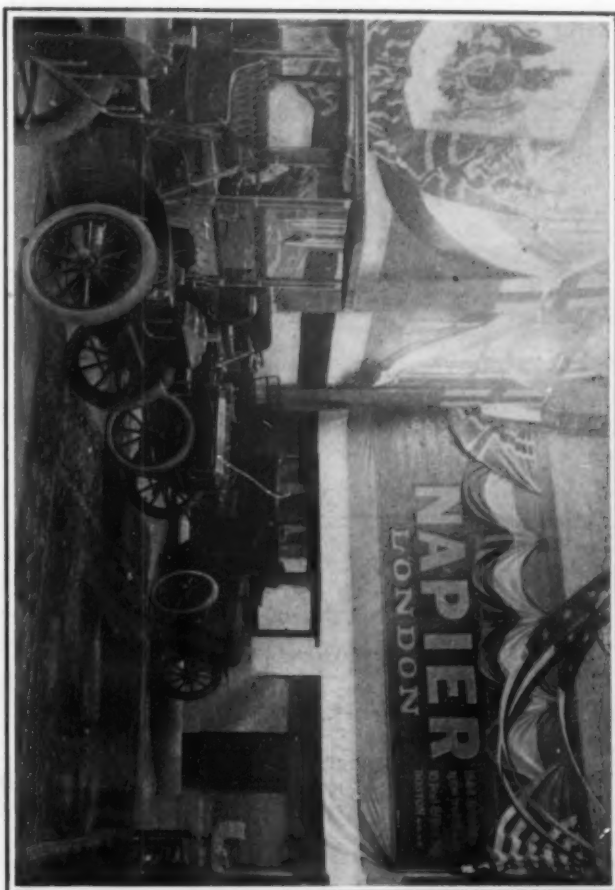
PACKARD AND STEVENS-DURYEA RACERS.

Fred A. Randall added to his line of Clement-Bayard and Stevens-Duryea cars the Stevens-Duryea racer, which he will try to keep in Boston for the spring race meetings at Readville. The Packard Gray Wolf was shown among a good display of Packards, Orient Buckboards, and Northern runabouts by Alvan T. Fuller. The Winton and Peerless, which have been rivals in Boston, were shown in amicable proximity in the middle of the hall. Both displays were handsome, embracing the stock cars and chassis.

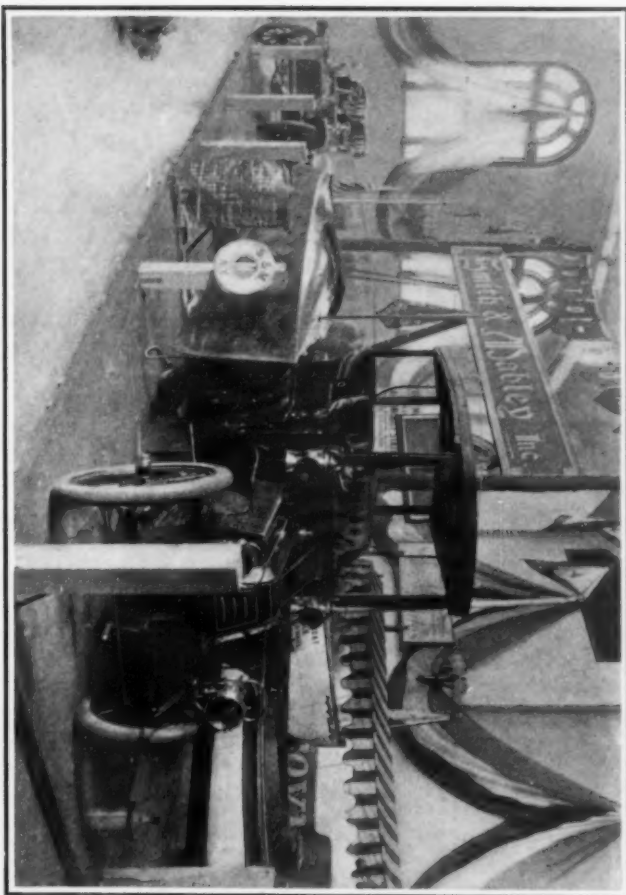
IN VESTIBULE AND CORRIDOR.

The Apperson, a new car to Boston; the Thomas three-cylinder, and the Lyman, a new touring car for which the body was built by Chauncey Thomas, a carriage builder of long experience in Boston's fashionable Back Bay trade, were objects of especial interest in the east corridor; and in the main vestibule, Dowling & Maguire had a handsome line of Pierce cars. The Lewis-Matthews Company, which carried the Pierce last year, this year brought in the Decauville and made a fine show of touring cars. Much interest was shown in the steel pan protecting the mechanism from the dust and dirt of the road.

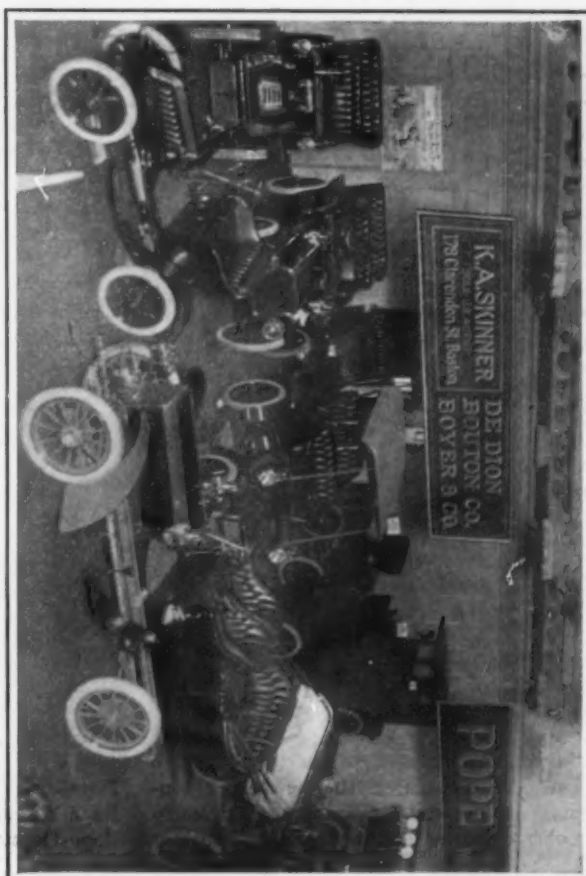
The Columbia Motor Vehicle Company introduced, along with its Columbia electrics, of which the new runabout was a notable car, and its well-known Columbia gasoline models, a new light car of Ohio make, under the name of the Courier. This gives George Neth, the Boston manager for the Columbia, a chance to meet the growing Boston competitors in all lines of cars.



DISPLAY OF NAPIER CARS THE FIRST EVER EXHIBITED IN AMERICA.



SMITH & MABLEY'S EXHIBIT—RENAULT CAR AND "VINGT-ET-UN" IN FOREGROUND



KENNETH A. SKINNER'S EXHIBIT OF DE-DION AND BOYER IMPORTED CARS.



LIFE-LIKE DISPLAY OF AUTO APPAREL ON DUMMY FIGURES, BY JORDAN MARSH CO.

REVIVAL OF INTEREST IN ELECTRICS.

Electrics, which have been at a low ebb in Boston since the old New England Electric Vehicle Transportation Company fiasco, seemed at this show to make a great stride toward regaining lost prestige. Two new lines were put in here, and will from now on be regularly established in this city. One, the National, to be handled by C. H. Barney, of Newton, who made an exhibit that attracted much attention in Horticultural Hall, and will have a garage for National electric and National gasoline cars at 41 Columbus Avenue, in the station recently vacated by the Auto Express Company. The other is the Studebaker line of electrics and gasoline cars, shown by A. F. Neale, who also will have regular headquarters here, at the Park Avenue Auto Station. These new cars, with the increased facilities for charging provided through the chain of stations recently established by the Edison Electric Illuminating Company, and the rising interest in the Pope-Waverley and Columbia electrics already in Boston, make a bright outlook for electricity the coming season.

GOOD SHOWING OF STEAMERS.

In a measure the same revival of interest was shown in the steam cars. While the Locomobile Company preferred to emphasize its gasoline line, the Prescott steamer from New York was shown in a physician's model and a two-seated runabout by President Prescott of the company; the locally well-known Stanley was shown in five or six examples of its favorite styles, with a Stanley chassis; and the White Company, through George H. Lowe and his corps of local assistants, made a successful bid for popular favor with its new engine-in-front tonneau type of steam touring car. The Prescott's claim to attention came largely through its device for enclosing the tubes and working parts in non-conducting materials to make the carriage frost-proof, and many physicians were considerably interested in it. The Grout company gave a good boost to the "steam end" also, showing a touring car on approved and up-to-date lines, a chassis, and a runabout. The steam representatives agreed that the steam carriage in Boston has emerged from the period of reaction which has made things so dull in this line for the past two years, and that in Boston, at least, it has settled in lines of definite and wisely-directed progress.

THE BUFFUM AUTO BOAT.

It is reported that the automobile boat exhibited by H. H. Buffum of Abington in Horticultural Hall has been sold to a New York man, but the identity of the purchaser is not revealed. The Buffum boat is of the double wedge shaped variety, a modification of the torpedo hull being another feature. It is 31 feet in length and has a beam of 4 feet 9 inches, with a draft of

but 5 inches. The stern is almost flat and draws little water. A 28-horsepower, four-cylinder engine is fitted, the entire boat complete weighing 988 pounds. Buffum claims a speed of twenty miles an hour. The frame is of mahogany and the lining of cedar. The freeboard is extremely low.

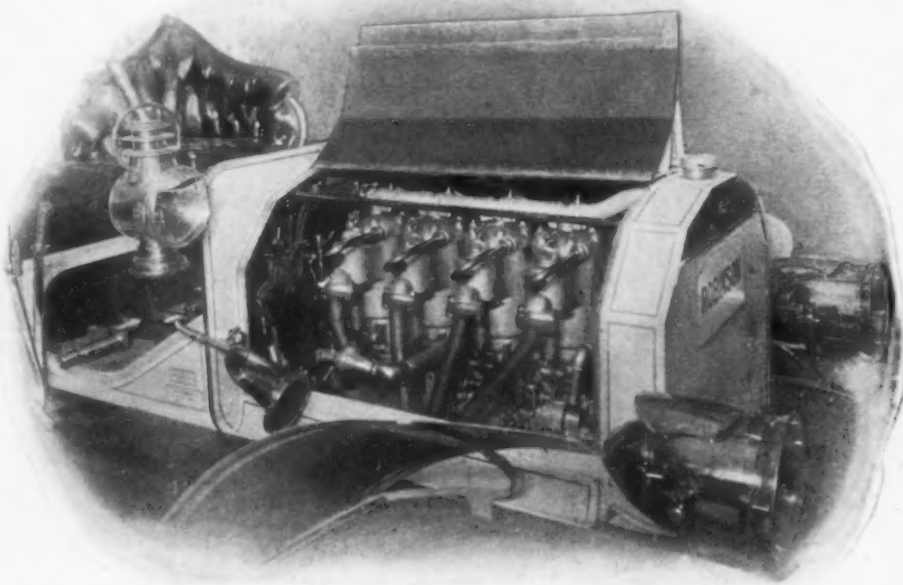
Mr. Buffum's boat has been criticised since it went on exhibition as a "fair weather boat," and some of the New York men who looked it over were of the opinion that it would not be able to withstand rough water even to a moderate extent on account of its low freeboard and square, flat stern. The inventor does not claim for the craft anything but smooth water capabilities, however; and information reached this city today that he has some idea of trying a boat of this type in the

or present it to the American Automobile Association.

Whether Mr. Buffum will undertake to get into motor-car speed trials in Florida in April is a question. He has a big eight-cylinder racing machine at his Abington factory which is believed to be capable of fast work. He ran it himself over the State road at the time of the Providence, R. I., races last year, but did not succeed in driving it faster than a mile a minute, and consequently declined to enter it in the races at that time. The machine has never been run in a race.

STATISTICS OF THE SHOW.

Statistics of the Boston show, compiled by THE AUTOMOBILE representatives, are as follows: Total number of vehicles ex-



ENGINE AND MERCEDES TYPE BONNET OF ROBINSON TOURING CAR.

summer on Lake Winnepesaukee, New Hampshire, a large sheet of water with a total length of eighteen miles between Center Harbor and Alton Bay. Mr. Buffum had some men go out on the lake while it was frozen over last winter and measure off a ten-mile course. The frozen surface allowed the accurate measurement of the distance, and by means of buoys placed one mile apart the course is made available for speed trials and boat racing during the coming season.

Mr. Buffum has challenged Smith & Mabley and Hollander & Tangeman to a race against the *Vingt-et-Un* and the *F. I. A. T.* at any place named by the owners, either in a triangular race with his boat or in a race between his boat and the winner of the coming match between the two. He offered to place \$1,000 a corner with the owners of the two boats, or to bet \$2,000 with the winner of their race for a match, the winner of the second match to deposit the \$4,000 stakes for the purchase of a cup

hibited, 133; gasoline cars, 95; steam vehicles, 13; electrics, 11; motor bicycles, 14; foreign cars, 10; chassis for steam vehicle, 1; chassis for gasoline cars, 15.

Outside the hall, for demonstration uses, there were in attendance: gasoline vehicles, 73; electrics, 7; steamers, 5.

The auto boats on view in Horticultural Hall were: Speed craft, 2; dories, 2; launches, 3.

OBSERVATIONS ON THE SHOWS.

Emil Grossman "sized up" the Boston show aptly when he said it demonstrated that Boston was the "hub of the automobile universe" as well as of the other one. What he meant was, that Boston was at present the center of automobile trade interest, because it was the most promising point at which to make a bid for business. This explains why so many new cars were given a debut at Boston this year and also why three or four New York machines which have no Boston agency were put in

here with a competent man in charge.

S. D. Waldon, sales manager for the Packard Motor Car Company, said the Boston exhibition was the best show outside New York. He met more buyers here, he said, who would talk right down to business than in the other shows, and he had no doubt now of Boston's enthusiasm.

E. R. Thomas, of the Thomas Motor Company, thought the only fault of the show was that it was too crowded. His opinion was that the Boston show developed even more automobile enthusiasm than that in Buffalo.

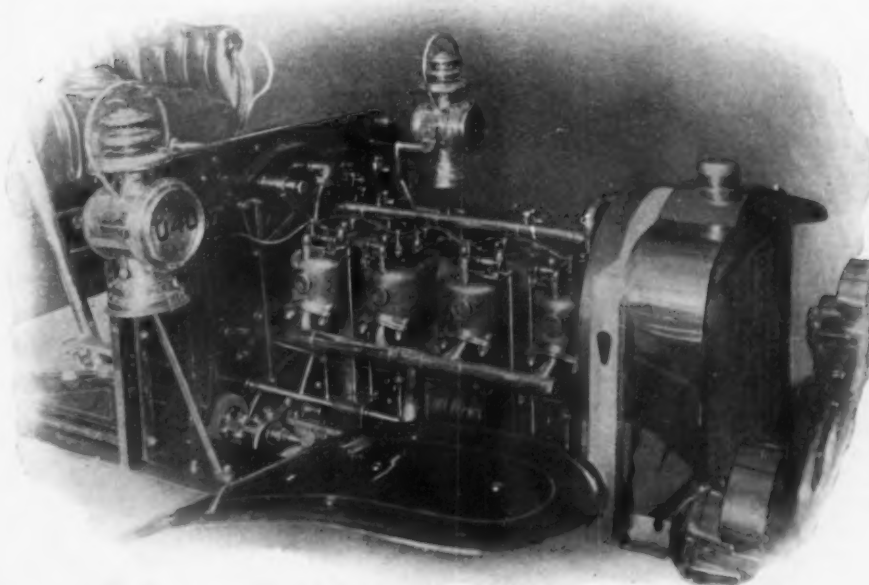
E. T. Birdsall, of the Standard Automobile Company, considered the Boston show the most original of all the shows held in this country this season. The showing of auto boats and automobile vehicles together made the exhibition very complete. He was favorably impressed with the sentiment he noted in favor of the high-power car.

Henry E. Knox, vice-president of the Knox Automobile Company, gave his judgment that the show stood for a live and healthy interest in automobilism, and that it gave earnest of an increased trade during the coming season.

E. A. Gilmore, local manager for Thomas B. Jeffery & Co., said: "The show represented good business under extremely adverse conditions. City people didn't want outdoor demonstrations in the kind of weather we had during show week, but we had agents in here from Maine, New Hampshire, Vermont, Rhode Island and Connecticut, and I have sold as many cars so far as I sold last year." Mr. Gilmore added words of praise for the show committee, Messrs. W. E. Eldridge, Harry Fosdick, C. I. Campbell and George H. Lowe.

"I want to see the show given next year in Mechanics' Building," said A. R. Bangs, local representative for the Franklin. "Of course it ought to be there. Then there would be plenty of room for everybody, and we could all make a good display. That hall would be large enough to include boats and everything under one roof."

Mr. F. A. LaRoche, president of the



ENGINE AND RADIATOR OF BUFFUM CAR.—CYLINDERS CAST SEPARATELY.

American Darracq Automobile Company, brought his Boston visit to a close Saturday by placing the local agency for his car with Kenneth A. Skinner, who has heretofore been identified with the DeDion-Bouton and Boyer cars as sole agent for the United States. The Darracq made many new friends in Boston.

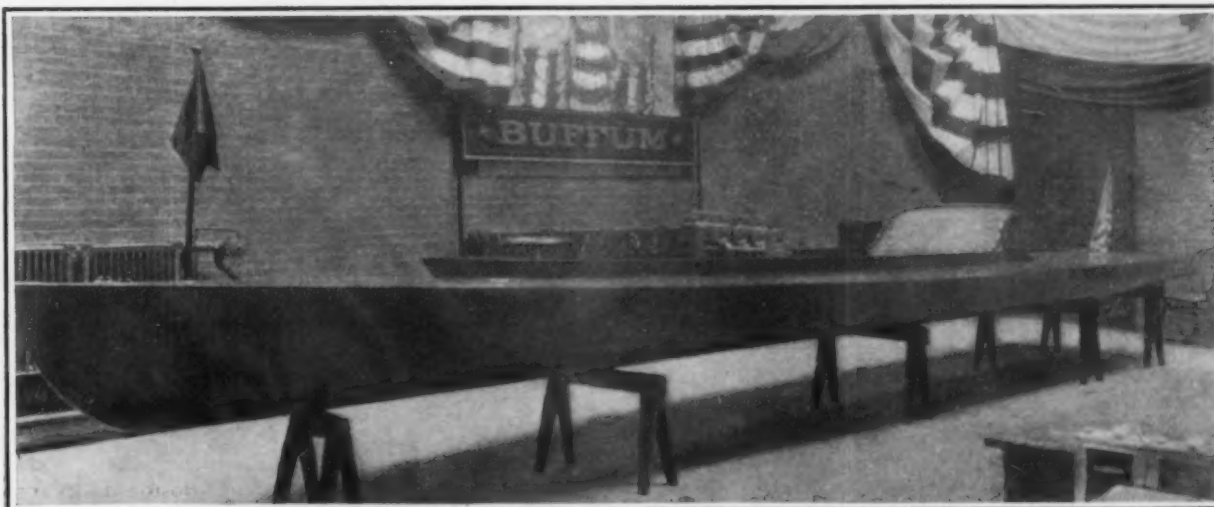
The Wachusett Automobile Club of Fitchburg visits the Boston show in a body each year. This year the trip was made Friday, and the club had a little dinner at the Parker House that was greatly enjoyed by those present. President Elliott C. Lee, of the Massachusetts State Automobile Association, and Dr. E. F. Constans, of the Brockton Automobile Club, were the principal guests.

Hill climbing on the Commonwealth Avenue course had to be given up during show week on account of the ice and snow. But in discussing the prospects, it was found that the flying-start record for two passengers belongs to Frank Ourish and

not to L. J. Phelps. Ourish, with Joe Downey as companion, took the grade with official timers holding the watch in 27 2-5 seconds. The car he used was the DeDion racer brought over here by Kenneth Skinner. No mention was made of this record at the time because it was believed not to equal the record. But at the show it was discovered that the Phelps' record of 27 seconds, in a Phelps car, was with only one person up, and that Mr. Phelps took 29 seconds for the climb when he had two persons in the car.

The Dealers' Association "celebration" in Howe Hall of the New Century Building, Friday night, from 11 p. m. until 1.30 a. m., was a rollicking time, with the old bicycle aggregation present in force. A vaudeville show was the principal attraction.

The show committee recognized the good work of Superintendent Blaisdell, of Symphony Hall, at the close of the exhibition Saturday by presenting to him a gold watch.



THE BUFFUM 28-HP. SPEED LAUNCH, EXHIBITED IN HORTICULTURAL HALL.—WEIGHT COMPLETE, 988 POUNDS.

Commercial Vehicles Practically Considered.*

An Extensive Discussion of the Present State of the Art of Construction and Details of Costs of Operation.

By HIRAM PERCY MAXIM.

A stage in the development of motive powers for vehicles has been reached where the question of utilizing some of them for general freight transportation has become a matter of considerable commercial moment. It is the purpose of this discussion to present certain data on these different motive powers in so far as they relate to commercial wagon propulsion.

For the development of the pleasure automobile, there have been reduced to practice four electric motive power systems. They are:

The "Electric," with electric motors and storage batteries.

The "Steam," with steam engines and boiler.

The "Gasoline," with gasoline engines, friction clutch and change gears.

And the so-called "Combination," in which a gasoline engine is coupled to an electric generator which generates electricity that is then used in electric motors as in the regular electric vehicle.

Generally speaking, we may sum them up as follows:

The electric has arrived at what would seem to be a fixed and possibly a final type. In all but the smaller pleasure vehicles it has two series motors, independently connected, each to one of the driving wheels. The storage battery is carried below the body, between the axles and almost never inside a part of the body. All underlying principles necessary to successful operation in practical service are understood. A degree of certainty and reliability is assured which enables the vehicle to be placed among established transportation apparatus. The highest development unquestionably exists in this country.

In the case of steam, no standards have been approached except in the heaviest trucks or lorries. In the latter form the type is represented by a self-contained running gear frame, or chassis with a boiler located at its extreme front end, usually in a sort of cab. The engines are located below this frame end between the axles. They are horizontal and connected to the driving wheels usually through a change gear device and differential. They seem to be reliable and satisfactory in certain services, but it would not seem safe to yet place them among established transportation apparatus, at least in this country. The highest development exists in England.

In the case of the gasoline, while we cannot say that one fixed arrangement has been reached, even in pleasure vehicles, several of the important elements have

* A paper read before the Automobile Club of America, at the regular meeting, March 22, 1904.

been reduced to an eminently practical point. The most important of these is the engine. In its best forms the gasoline vehicle engine has finally become a very trustworthy piece of apparatus. All of the principles underlying at least successful operation on the road are understood. For the first time, its peculiar advantages for vehicle propulsion are made available. In the general arrangement of the vehicle, some believe a final type has been reached, at least in the case of heavy vehicles. This type consists of a self-contained running gear frame or chassis, which contains the entire power plant, controlling apparatus and running gear. The engines are located in the extreme front end, in a compartment or so-called bonnet, entirely separate from the body carrying space. They are connected through a friction clutch to a change gear device carried below the body. The connection thence to the driving wheels is through a differential.

In pleasure vehicle service a very satisfactory degree of reliability and certainty has been attained, notably in long distance touring. In its best types it is probably no more than fair to class the vehicle among established transportation apparatus, since pleasure touring has come to be classed as a form of legitimate transportation.

In commercial vehicles no approach to anything standard or final has been reached. The highest degree of perfection in the system generally is usually conceded to have been reached in Germany and France, although the last year's developments in this country make it a question if an equal degree of perfection has not been reached here.

In the case of the combination system, it cannot be said that any more than the first stages have been reached. No approach to any fixed type gives indication of having been reached. Practically operating vehicles have been constructed and put into service and have proven the system operative, but not enough has yet been done to indicate any idea of its final form or status with relation to the other powers. Development has been about equal in Europe and in this country.

Of these four motive power systems we have the electric as the most advanced and practically the only motor system in general use in commercial wagon service. For this reason, a consideration of it and the data which has been collected concerning it, is the only basis upon which we can approach the general commercial automobile question.

There are in New York City today, approximately 300 electric wagons and trucks in service. This number of vehicles in operation has naturally brought out many important practical difficulties, as may be imagined. The most important of these is the cost of maintenance. Very vague, and in most cases, entirely erroneous ideas prevail upon this question. A careful consideration of it at this time, and in this place, ought to be a good thing. Not only should it serve to clear up some of the error and misunderstanding which exist, but it may also serve to furnish a basis from which to judge the possibilities of the other motive powers, a very interesting subject at this time, and in this connection.

As already pointed out, the modern electric wagon is about uniform in general design. This even extends to important details. Practically all wagons, for example, use the same kind of a storage battery, and practically all of them use rubber tires. Not all of them, however, use the same amount of storage batteries or the same amount of rubber tires, and it is around these two elements that most of the popular misunderstanding and error exists.

Pains have been taken by the writer recently to go carefully into the general question of cost of maintenance. The object was not so much to determine the entire cost of operation of an automobile wagon and the saving of the motive power over horsepower, although this comes out as a natural sequence, but rather, to determine the relationship between the different elements of maintenance expense as they exist today, and to estimate the probable effect of the various improvements we have at present in contemplation. An additional object was to compare the performance of wagons propelled by the other available motive powers, assuming the most recent developments in each were taken advantage of.

With this object in view maintenance expense has been divided into six divisions as follows:

Battery maintenance, tire maintenance, cost of power, general repairs (which include every repair other than those on battery or tires), depreciation (which includes the entire vehicle, other than battery and tires), and interest on the investment.

In investigating the conditions existing in actual service, many widely varying figures were encountered as might be imagined would be the case at the present state of the art. An exact figure for any one element is probably an impossible thing to obtain. The best that can be done is to take an average of such observations as are known to be not entirely erratic, and to combine with this a certain amount of estimate based upon experience. The results represent a general performance which we know cannot be far wrong, and

which, therefore, should serve very well for a consideration such as the present.

Taking the six elements of maintenance expense, the detailed data from which each has been made up, and which will be seen to contain many interesting facts, are as follows:

Battery Maintenance: The same kind of storage battery is found in practically all vehicles. It is the Exide, a pasted lead battery made by the Electric Storage Battery Company, of Philadelphia. It represents the highest development of the light-weight lead storage battery to date. It is entirely reliable, as far as running is concerned, being virtually free from the old troubles of short-circuits, buckled plates and mysterious failures for which storage batteries have been notorious for years. Its separators consist of thin perforated sheets of rubber placed against each side of each positive plate, and a thin grooved wooden separator between these and each negative plate. The jar is of hard rubber and in the latest types has ribs in the bottom which hold the plates some one and three-quarter inches up from the bottom, thus allowing for a large shedding of active material before enough has accumulated to make contact with the plates. The connection between cells have great strength and ruptures and failures on the street on account of open circuits, are very infrequent where anything approaching good care is given. Its one practical disadvantage, aside from cost, resides in its property of gradually shedding its active material.

The performance of this battery seems to be affected strongly, as far as maintenance expense goes, by the number of chargings it has to be given in order to

perform the work it is called upon to do. For instance, all 2,000 pound capacity wagons, which is the general size used by department stores, and for light express service, seems to have to make about 30 miles per day. All manner of theories and influences have been brought to bear upon this mileage question, but in spite of them all, 30 seems to be about what this size of wagon must average for a day's work if it is to be used to its full possibility.

Where a general battery has been provided, it does this with a reasonable factor of safety on one charge. This means of course but one charge per day and a slow and advantageous one at that, on account of most of the night being available for it.

On the other hand, where the battery has been scrimped, it is found to be impractical in every-day service to always finish up a day's work on one charge. What is called a "boost" is necessary, and is given sometime during the day. It consists usually in a short charge and almost invariably in a high rate one in order to get as much in as is possible in the short time which is usually available. This, of course, unavoidably increases the shedding effect on the positive plates, and, as is true in the case of all apparatus worked too near to its maximum limit, a shorter life results.

(To be Continued.)

Rule for Cooling Surface.

From a series of tests under conditions approximating those met with in practice, the Briscoe Manufacturing Company, of Detroit, has deduced the following convenient rule for the amount of radiating surface required to cool one square inch of heated surface in the cylinders of gasoline engines.

With a velocity of 20 miles an hour, 38 square inches of radiating surface, such as is found in ordinary tubular radiators, are sufficient to cool 1 square inch of heated surface of the engine cylinder, with water delivered to the radiator at an approximate rate of 2 gallons a minute, the temperature of the air being that of an ordinary summer day. For each mile of speed less than twenty, it is necessary to have an additional 3 square inches of cooling surface for each square inch of heated surface.

As a result of tests of various types of coolers, it was found that in no case was the efficiency greater than that obtained with tubular radiators, and the conclusion is drawn by the experimentors that for practical purposes the tubular cooler is superior to those of the cellular or honey-comb types.



FLORAL REPRODUCTION OF A STANDARD TYPE OLDSMOBILE AT BOSTON SHOW.



TYPICAL SUNDRIES STAND AT THE BOSTON AUTOMOBILE SHOW.

French Fuel Consumption Trials.

Contest in the Vicinity of Paris Arranged by L'Auto to Determine Economy and Reliability of Cars.

Special Correspondence.

PARIS, March 9.—The fourth of the annual consumption and reliability trials organized by our French daily contemporary, *L'Auto*, has just taken place, and although the number of entries was rather small, if the importance of the automobile industry here is considered, the performance of the vehicles entered showed great progress as far as economy of running and reliability were concerned. Since some are still skeptical when the reliability of the automobile is mentioned, it is well to point out that of forty-three vehicles entered by twenty-two manufacturers, all the vehicles which started finished the trials.

The most conspicuous fact is the use of

(3) Reliability: The competitors making the run at an average speed of at least 25 kilometers were not penalized. If the average speed was less than 25 kilometers, the marks were obtained by multiplying the difference between the average speed obtained and the limit by twenty-five.

(4) Speed in hill-climbing: Any vehicle climbing the Picardie Hill, 8 per cent. grade, at a speed over 30 kilometers an hour was not penalized. The penalty for all others was determined as follows: Difference between average speed obtained and limit multiplied by five for running start, and by ten for start from a standstill.

(5) For each car entered the maker was to supply one commissioner who was put

In former contests, as readers will recollect, there was no minimum speed, so that many drivers kept their cars at a ridiculously low speed, getting very little power from their engines and thus saving a rather important quantity of fuel, which was impossible this year.

The system by which the mixture was produced in the Chenier & Lion car deserves special mention. This mixture was produced with naphthalene. The small balls which are the usual form in which this solid hydrocarbon is supplied by the trade, were fed one by one to a chamber on the inlet piping, heated by the exhaust, the solid was melted by the heat and vaporized by the flow of air. This system was applied on an eight-years-old Peugeot car, which proved highly satisfactory and defeated many of her more modern competitors.

The heavy-weight trucks and delivery wagon contests proved conclusively that under proper management in operation



SEALING THE FUEL TEST TANK.



WEIGHING IN BEFORE THE FRENCH CONSUMPTION TRIALS.

kerosene, "shiskeoil" and even naphthalene in lieu of gasoline, with great success on some of the vehicles.

The trials were made in three days; the first day was reserved to vehicles the chassis of which was listed at 12,000 francs (\$2,400) or less. The distance was 100 kilometers, and was to be run in a maximum time of four hours, otherwise the vehicle had its mark changed according to the delay.

The regulations of the contest were as follows:

(1) Consumption per ton gross weight: The number of marks was obtained by dividing the total weight of the vehicle and load into the number of litres used and multiplying the quotient by ten.

(2) Consumption by ton of load: The marks equal the number obtained by dividing the total load into the number of litres used and multiplying by ten.

in authority, in one of the competitive cars and was to ascertain the regularity of the trials.

(6) The fuel tank of perfectly rigid construction, was to be placed in front of the commissioner constantly in his sight, and was to be closed with a special sealed screw cap now standard in France for such contests, it having been used in the alcohol race; the "Circuit du Nord" and in previous consumption contests similar to the one which we are reporting here.

As a whole, the general results are that the greatest number of points was gained or rather lost in the hill-climbing contest, the speed minimum of 30 kilometers an hour being rather light for the type of vehicles entered, those being mostly industrial vehicles. The figures of net consumption in average service show a decrease in comparison with last year's figures.

automobiles are more economical than horses for industrial work.

THE WASHINGTON SHOW.

Dealers' Third Annual Display Opens in Inclement Weather.

Special Correspondence.

WASHINGTON, D. C., March 21.—Washington's fourth annual automobile show, the third one promoted by the Washington Automobile Dealers' Association, was opened this evening in the Light Infantry Armory, located just off Pennsylvania Avenue. The attendance was not very large, owing to the inclement weather, but it is expected the hall will be crowded all the remainder of the week if the weather conditions improve. More than 4,000 invitation cards to the show were mailed to prominent residents, such as diplomats,

senators and members of Congress, army and navy officers and other notable government officials. It is to this class that the dealers look for trade.

A very embarrassing condition con-

land Automobile Company, Baltimore and Washington agents for the Knox.

A new machine not shown elsewhere is the Oldsmobile runabout. It differs from the other Oldsmobile in that the seat and

pany, Columbia electric and Columbia gasoline cars; Pope Manufacturing Company, Washington branch, Pope-Toledo, Pope-Tribune, Pope-Hartford, Waverley and Cadillac; Rose Manufacturing Company, Neverout lamps; National Electrical Supply Company, sundries; Schaum Automobile Company, Schaum gasoline car; A. L. Hull & Co., Ford; H. A. Rhine & Co., Haynes-Apperson and Yale motorcycle; Automobile Storage & Repair Co., Studebaker and Baker, and sundries; National Capital Automobile Company, Oldsmobile and Franklin.

There are numerous demonstration cars at hand, but they had little to do tonight on account of the rain. There is a fine place for demonstrating close by the Armory, and the first good day will see the park filled with cars. Tonight the prayer of the exhibitors is for fair weather during the rest of the week.

COMMERCIAL VEHICLE TRIALS.

Additional classes for heavy trucks have been created by the contest committee of the Automobile Club of America for the service test of motor wagons, which will be held in the streets of New York, during the week of April 4. They are for wagons carrying a dead load of 6,000 to 8,000 pounds and another class for wagons carrying a dead load from 8,000 to 10,000 pounds or more.

That these heavy trucks may be well tested, the committee has arranged to place them in the service of the H. Clausen & Son Brewing Company, and they will be used for the regular routes.

Odometers will be placed on all com-



FILLING THE FUEL TANK OF A VIVINUS CAR IN FRENCH TRIALS

fronted Manager Washington this morning when he made application for a license to hold the show. He was informed that as those in charge of the armory had not complied with the new police regulations concerning public halls, a license would be withheld. Naturally there was consternation among the exhibitors when this fact became known, for it looked as though the show would have to be declared off. Manager Washington, after bringing all his persuasive powers to bear on the municipal authorities, finally arranged to deposit \$10 collateral each day of the show, the same to be forfeited if he did not appear in court. Of course the collateral will be forfeited.

On entering the armory the visitor is presented with a program containing a list of the exhibitors and other interesting facts. The display of automobiles and sundries is the best ever seen here and compares favorably with the other minor shows that have been held in other cities. Of course it is purely a local affair promoted by men in the local trade and its main object is to stimulate local interest.

The decorations of the hall are very profuse, electric lights, flags, bunting, and palms all being utilized in the general scheme of decoration.

A number of exhibits from the New York show attracted much attention. There was the Darracq chassis set over a mirror which acted as a magnet to draw the attention of everybody. Two fine Darracq touring cars of a robin's egg blue also came in for much attention.

The Knox chassis, also seen at the New York show, is exhibited here by the Mary-

land Automobile Company, Baltimore and Washington agents for the Knox. body are three and one-half inches wider and the crankshaft and transmission gear are heavier. The Oldsmobile railway inspection car attracted considerable attention.

The full list of exhibitors is as follows: Baltimore Motor Car Co., Thomas; A. L. Cline & Co., Rambler and Baker; Maryland Automobile Co., Knox; Woods Motor Vehicle Co., Woods; Saks & Co., automobile clothing and sundries; Chas. E. Miller



CHENARD-WALCKER CAR ARRIVING AT A CONTROL IN CONSUMPTION TRIAL.

& Bro., Acme, Reading steamer and Clement motorcycle; F. A. LaRoche & Co., Darracq; Cook & Owessney, Winton, Stevens-Duryea, White and Orient Buckboard; Wm. Hjorth, wrenches; Washington Electric Vehicle Transportation Com-

peting vehicles to ascertain the mileage, while the load carried will be weighed each day. Entries close next Saturday and it is expected that every builder of commercial vehicles will be represented in the test.

Gasoline Engine Lubrication.

Causes of Heating and Sticking and of Excess Oil in Cylinder— Best Forms of Design and Proper Qualities and Quantity of Oil.

By A. E. POTTER.

ONE of the chief causes of operating troubles in gasoline engines which the average designer seems either to have overlooked or to have been unable to successfully combat, is improper lubrication. An excess of oil in the cylinder, more than sufficient to properly lubricate the cylinder walls, piston, and rings, yet insufficient for wrist and crank pins and main bearings, seems to be the usual result, no matter whether splash or positive feed or a combination of both lubricating systems is used. Careful study of conditions to be encountered—heat, pressure, location of oil ports, construction and design of the piston, quantity and quality of the oil—seems necessary in order to remedy the trouble.

PROPER DESIGN AND CONSTRUCTION.

The most frequent cause of excess of oil in the firing chamber is perhaps the improper designing and construction of the piston with relation to the location of the oil ports. The writer has had best results when using a very long piston with the oil port as low in the cylinder as possible, so that it would always be covered by the piston when on upper or outer center and yet not be covered by the first ring above the wrist pin when on lower or inner center. In order to do this it will be found necessary to make the piston at least one and one-third times the length of the stroke. There is good authority and precedent for using an extra piston ring at the bottom end of the piston. This is desirable since it is better to put the wrist pin bearings in piston than in the upper end of the connecting rod, with ample oil grooves in the piston converging to the wrist pin holes. The wrist pin being hollow, with a hollow connecting rod or a pipe connection from upper to lower end, allows all surplus oil on the walls of the cylinder to be forced by means of the pressure which passes the upper rings, back into the crankcase, at the same time thoroughly lubricating both wrist and crank pins. This construction is cheap, certain, safe and effective.

In automobile or marine work the straight piston and straight bored cylinder are preferred to what are sometimes called the "straight and taper" and "straight taper" pistons and slightly tapered cylinders, smaller at the top end.

If the piston is too tight a fit in the cylinder there will be no room for oil and as soon as the piston expands it will begin to cut and frequently become stuck. The writer has found that .003 of an inch is not too much to allow between the bore of the cylinder and the diameter of the piston.

He was converted to this by an experience in the repairing of a marine single-cylinder engine. The motor would start easily when cold and as soon as it began to heat up would slow down fully 20 per cent. The piston was taken out and filed in a lathe, taking off at least .003 of an inch, with the result that in addition to running better than before when cold, it never slowed down again after becoming warmed up.

The so-called "water pack" frequently used in small steam engines and pumps is occasionally met in gasoline engine pistons. It is of very doubtful utility. If it is as effective as is sometimes claimed, it seems strange that it is not used exclusively, or at least more extensively in lieu of piston rings.

One oiling device on the market has two ports, the upper for pressure on the oil and the other to supply the oil under this pressure. Other devices consist of reservoirs connected to the engine exhaust by means of shunt piping and check valves, but personal experience leads to the conclusion that were it not for additional splash lubrication, they would prove unsatisfactory on account of broken sight-feed glasses, leaky connections, stuck check valves, dirt blown from the exhaust, etc.

DESIGN FOR SPLASH LUBRICATION.

If the splash system is used solely the cylinder is liable to get too much oil unless a much heavier lubricant is employed. The cylinder should project into the crankcase and the lower end should flare outward from the bore at an angle of forty-five degrees, while the piston should not overrun or project beyond the lower end when on lower or inner center. The flare on the end of the cylinder will tend to reduce the excess of oil in the cylinder even if the piston does overrun the cylinder.

Oil scoops or projections on the caps of the connecting rods, whose mission is to carry oil to the crankpins, are worse than useless. Is it reasonable to suppose that oil will run toward the crank pin traveling at nearly 1,050 feet per minute, overcoming, if you please, the centrifugal force of an engine crank pin, five-inch stroke at 800 r.p.m.?

Ledges cast above the main bearings to catch splashed oil, and conduits to allow of free flow to the bearings, together with means for the surplus to flow back to the crankcase, if not provided, surely ought to be.

GREASE CUPS AND OIL GROOVES.

Grease cups give lubrication also to

main bearings, and are often used on the end of the crankshaft to force lubricant to the crankpin. This device is especially valuable in single cylinder engines and often is used with fair success in the two-cylinder type by making the hole in the crank pin that is nearer the grease cup considerably smaller than the farther one and using it rather more liberally.

Hot bearings, especially when the engine is new or being tested, very frequently arise from the hot gases blowing past the piston rings in the crankcase, where the oil is burned up. Every two or four cylinder engine when new should have an ample stand pipe at least twenty-four inches high, attached to the crankcase to carry off these hot gases.

The necessity of liberal oil grooves in bearings does not always seem to be realized, nor the need of carrying the oil to, instead of leading it from, the place where it is needed. We frequently see oil grooves cut in the connecting rod caps instead of in the opposite half where the pressure and wear occur, and often, where, as in automobile work, the wear of the crankshaft is in the caps, we find oil grooves in the opposite side and the caps intact. Occasionally we find caps doweled—rarely if ever lipped—and instead of the holding-down bolts or studs being close to the shaft, we are more likely to find them unnecessarily spread and expected to hold in place soft bronze caps made as light as possible; and when strain comes in the caps and they close together and bind the shaft, it is explained that the bronze "crawls" or that the oil is "no good."

Especial attention should be given to the importance of excluding dirt and grit and retaining oil by means of felt, especially in automobile work.

TOO MUCH OIL USED.

There is much diversity of opinion among gasoline engine manufacturers as to the quality and quantity of oil to be used. I have found that it mostly depends on construction and that rarely is too little oil used; on the contrary, in nearly every instance too much is used, resulting in fouled plugs, pre-ignition, clogged ports, smoke and ill-smelling exhaust. On the design and construction depends the quantity, and the quantity depends on the quality. If a large quantity is necessary, or the lubricant is to be used extravagantly, the oil must be thin and of low fire test so that the excess which gets into the explosion chamber may leave little or no deposit of carbon.

Splash lubrication, with no means of regulating the amount in the crankcase and no method of allowing the surplus on the cylinder wall, piston, and rings to run back to the case through the wristpin and connecting rod; also short pistons with poorly located oil ports and positive feed, would naturally require much more oil than a more rational construction, and it would need to be thin and of low fire test

so that the excess might be consumed readily and cleanly.

SUITABLE OILS FOR SUMMER AND WINTER.

Gas engine cylinder oil should be purely mineral, compounded in the summer from a high grade, medium-filtered cylinder stock and heavy gravity, high viscosity paraffine or spindle oil, in proportions best suited to conditions, it being borne in mind that the smaller the quantity of cylinder stock used the thinner and poorer in lubricating qualities will be the resulting compound.

In winter or extreme cold weather it is well to substitute for the above the very lowest cold test filtered cylinder stock and zero cold test paraffine oil. This will be a little more expensive, but will prove more satisfactory in the end.

With a long piston, and oil ports properly located, particularly when using a heavy oil the writer has frequently put a vent on the upper side of the pipe leading from the oil cup to the oil port, and in nearly every instance has noted an increase of power, due no doubt to a more regular feed of oil, relieving a slight back-pressure on the oil feed.

It will usually be found that careful attention to the foregoing points, in lubrication as well as in design and construction, to say little of operation, is not only essential, but is paid for by increased power and durability, more especially in gasoline engines than in any other form of power producing mechanisms.

Combination Propelling System.

That interest in combined gasoline and electric systems for pleasure vehicles has not died out is shown by the improvements in design that from time to time emanate from French shops. A new and very interesting combination of this sort has recently been patented in the United States by Louis Kreiger, the French constructor. The object of the arrangement is to have the speed of the car vary automatically, so that under different conditions of service such as occur with change of grade, both the engine speed and the power delivered remain constant without attention on the part of the driver, no change-speed gears being used.

The main features of the arrangement in its simplest form are shown diagrammatically in Fig. 1, the representation of the different parts being purely conventional. A dynamo A, driven by an engine (not shown) has fields provided with two sets of windings B and C, arranged so as to act differentially; in other words, it is a shunt-wound dynamo, to which a differential series winding C has been added. From the dynamo, a series motor E derives power, driving in its turn the wheels of the car.

Under normal conditions in which the torque required for driving the car is

constant, as the engine speed is kept uniform, the voltage of the dynamo (and consequently at the motor) will remain constant; under these circumstances, therefore, the speed of the motor will have a definite value and the car will travel at a uniform speed. If, however, the load on the motor is increased in any way, such as in ascending a grade, it immediately calls upon the dynamo for more current to furnish additional torque. This, acting differentially through the series field

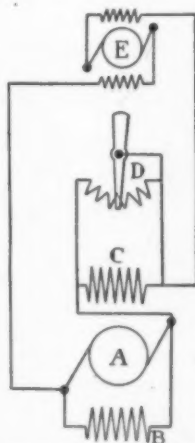


FIG. 1.—KREIGER ELECTRIC SYSTEM.

winding C of the dynamo, reduces the field strength; consequently, the dynamo voltage, which varies directly as the strength of field and speed, will be reduced because the engine and dynamo speed is always kept constant. This will in like amount reduce the voltage at the motor, which will have the effect of reducing the speed at which it runs.

In order that the normal speed (and consequently that under varying loads) may be controlled by hand, a resistance which can be varied at will is inserted at D

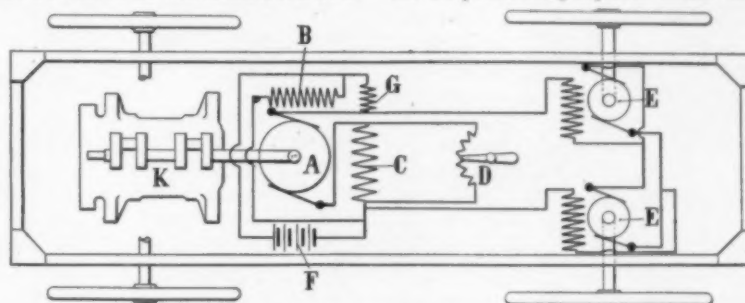


FIG. 2.—KREIGER PROPELLING SYSTEM IN COMBINATION WITH GASOLINE MOTOR.

cross the ends of the series field winding. When the movable contact at the lower part of the arm is at its extreme position at the right, all of the resistance is cut in and the maximum effect of the field winding is obtained; when, on the other hand, it is in its extreme left-hand position, all of the resistance is cut out and the field winding close-circuited, under which condition its influence is minimum. This gives different values to the normal voltage of the dynamo and a corresponding variation of speed to the motor.

Fig. 2 shows diagrammatically a plan view of the arrangement of the apparatus on a car. The usual motor in front is shown at K, the dynamo at A with its shunt and series field windings respectively at B and C, and the motors at E, E. It will be noted that the representation is purely conventional, the axes of the dynamo and motors as shown in the cut being vertical, whereas actually they are horizontal and coincide respectively with the axis of the engine shaft and that of the rear axle. In this case, two series motors are used connected in parallel. The shunt for hand regulation is shown at D.

In this arrangement, a battery F, consisting of a few storage cells, is connected to the ends of the shunt field winding, its purpose being to steady the action of the dynamo and also to furnish initial excitation. In order that it may never be short-circuited through the armature, a suitable resistance G is inserted in the circuit.

An attractive feature of the system is the elimination of change-speed gears by means of the method of speed control employed, which is purely electrical. The way in which this is accomplished, which is by varying the excitation of the dynamo, is advantageous as it avoids the necessity of having a more or less complicated controller for the motors, and economical as it eliminates the energy-wasting resistance used with such a device.

The range of speeds that can be obtained will evidently be limited on account of the fact that when the field strength of a dynamo is decreased and the armature current increased at the same time, a point is reached at which destructive sparking at the commutator occurs; however, this limitation may not be great enough to be serious, as it may be (and probably is) possible to obtain sufficient speed variation for all practical purposes under the condi-

tions of ordinary service without disastrous consequences from this cause.

Since the Massachusetts automobile license law went into effect, licenses have been issued, up to March 15, by the State Highway Commission for 3,377 automobiles, 509 motorcycles, 3,988 private operators and 734 professional chauffeurs. The excess of licenses to private operators over the number of licensed cars is due to the fact that in some families several members secure licenses to drive the same car.

Transportation Club Banquet in New York.

Significant Recognition of Automobilists Shown by Entertainment in Their Honor Given by Leading Railroad Officials— Speeches by Senator Depew, W. E. Scarritt and J. B. Dill.

Two modes of transportation—both on wheels, but not opposed to one another—were represented at the Manhattan Hotel on Tuesday night, when the Transportation Club, composed chiefly of railroad officials, gave a dinner to the representative men identified with the use or manufacture of automobiles and the advancement of automobilism. No stronger recognition of the stability of the new industry could be furnished. Some 200 guests attended the dinner in the club's rooms and afterward listened to speeches—some serious and some facetious—but all on the automobile, its progress, its value, its field, its manufactures and its future.

Speakers included Chauncey M. Depew, United States Senator, who is president of the Transportation Club and who acted as toastmaster; Winthrop E. Scarritt, president of the Automobile Club of America; James B. Dill of the club's law committee; Colonel Albert A. Pope, known as the "father of good roads"; James MacDonald, Highway Commissioner of Connecticut; Colonel E. B. Hay of Washington, and E. B. Gallaher of New York.

The Transportation Club includes in its membership most of the prominent railroad men of the country to the number of 800. Each year it gives a dinner, in honor of some representative industry. Last year the steamboat people were honored and for this year the automobilists were selected.

TOASTMASTER DEPEW LEADS ADDRESSES.

Following the dinner, which was served in the handsomely decorated clubrooms on the top floor of the Hotel Manhattan, Toastmaster Depew started the speech-making by saying that the Transportation Club had neither partisanship nor fads. It treats in the broadest spirit problems of speed and safety. He said the world was for speed with safety and so was the club.

"After we got speed ships and fast express trains," said the Senator, "people wanted to go faster. They couldn't walk fast enough to suit them, so the bicycle came into use. Now the popularity of the bicycle has waned a bit because Americans wish to travel fast but won't work for it."

"I was present at the birth of the automobile," continued the Senator, "It is not my profession, but I was there. A prize was offered—I think by Mr. Brisben Walker and the friends of the Ardsley Club—for a trial of these machines from the City Hall to the club, a distance of twenty-six miles. This was eight years ago. The judges were General Nelson A. Miles, then on the active list of the United

States Army; Frank Thomson, of the Pennsylvania Railroad; John Jacob Astor, and myself. Twenty-six automobiles were entered. Ten broke down in the preliminaries for starting, sixteen started, four arrived at the Ardsley Club and two were able to get back to the City Hall. They started at ten in the morning and arrived at the club at three in the afternoon. This was thought quite satisfactory eight years ago.

"At the dinner in celebration of this event at the club, at which was gathered an assemblage of famous engineers, transportation men and manufacturers, the menu was headed 'The First Day of the Horseless Age.'"

The Senator admitted that he hadn't tried an automobile until two years ago, when a friend in England took him for a ride at the rate of fifty miles an hour.

"All my railroad experience," said Senator Depew, "had told me that to go more than ten miles an hour you must have a ballasted track, heavy rails and fish-plates; and here I was with only a rubber tire under me. A stone as big as my fist would have made me join friends that I have not seen for years."

In finishing, Mr. Depew said: "We are now upon the eve of a revolution in both passenger and freight transportation by the automobile. The passenger automobile is to come constantly into greater use in large cities and profitable employment in villages where it will not pay to construct and operate trolley lines."

"Rural free delivery of mails is one of the growing necessities of our post-office system. It is not a dream to suppose that an automobile constructed to carry mail, passengers and parcels will pay handsomely and while bringing the farmer in daily contact with the post office will connect his family with the store and his farm with the village market."

By stimulating travel and production, these facilities will contribute to the revenues of the railroads and to the trolleys in the larger towns from the highways and byways tributary to the central village or city; and thus not only will farms become more valuable and the vast volume of our internal traffic be greatly added to, but there will also be increased comfort and pleasure in country living. The automobile that is and is to be, will stimulate that most beneficent of public works, good roads everywhere."

SCARRITT FORECASTS FUTURE.

The toastmaster then introduced Winthrop E. Scarritt, president of the Automobile Club of America, as "the chief

criminal of the world." Among other things, the head of America's leading club said:

It seems a rash statement to make, but I dare make it in the presence of the Transportation Club of the great metropolis of the western world, that so far as transporting the individual unit is concerned, there has been absolutely no progress (until the coming of the automobile) since the dawn of history. Caesar Augustus went to his coronation drawn by horses and in a chariot just as fine as may be seen today on the Champ de Elysée. It is a pitiful fact that until the coming of the modern motor car the individual had no other or different means of transportation than had the followers of Achilles on the banks of the Ægean Sea.

The civilization of a race may be measured by the power to move things. Measured by this standard, the modern motor car will rank high in the temple of earthly fame.

Mr. Frick, an earnest devotee of the motor car, is reported to have said "it saves half my time in going about from place to place." Such men as President Depew, Mr. Frick and Mr. Dill have an abundance of everything in this world except time. Anything which saves their time is hailed as a gift from the gods.

Making a speech in a not distant city not long since I grew enthusiastic over my favorite theme. The gentleman who followed me in good-natured railery said that I had claimed all the blessing for the automobile except that I had not said it made two blades of grass to grow instead of one.

When he had taken his seat, I arose and begged pardon for the omission, because some recent experiments had been made by the federal government along this very line near Washington. A steam automobile had been constructed to drag a harrow with hollow iron teeth. These hollow teeth were connected by rubber pipes with the boiler in such a way that superheated steam was injected into the soil. The result was that every weed in the ground was killed and the chemical action on the soil was such that it became much more fertile and produced double the crop it had before, so that literally this steam car caused two blades of grass to grow where there was but one before.

I repeat what I have often said before, that I do not believe the wildest dreamer of us all has for an infinitesimal fraction of a second begun to appreciate what the modern motor car is to do for twentieth century civilization. Crude, unreliable, imperfect, if you please; nevertheless, it is a new and Titanic force which has come into modern life. Among the many problems it will solve will be that of the over-congested traffic in our city streets. First, it will banish the horse and the city will be clean; second, the space now used by the horse will be saved; third, it will carry double the load in half the time; that means that the streets will be clean and sanitary and their width doubled. This, and this alone, would be sufficient reason for the existence of the modern motor car. No man lives who can begin to catalogue the blessings that are to follow in the train of the automobile.

The horse has long been the faithful slave of man. Who of us have not, during the past winter, seen him straining at his load, slipping and falling, injuring himself on the icy pavements. This noble animal shall no longer be the beast of burden. This noble friend of man deserves a better fate, and I rejoice that the day of his emancipation draweth nigh.

LAWYER DILL INTRODUCED.

Following Mr. Scarritt came James B. Dill, who was introduced as the most eminent socialist in America—possibly because he was instrumental in forming more trusts than any other corporation lawyer in practice.

Mr. Dill had been called upon to talk of the automobile as the ally of the railroad, and this he did in a manner, possibly in an exaggerated manner, to convince even the hardest railroad passenger agent that dividends can only be secured by the increased use of automobiles. He spoke of the proposed impractical legislation which has been offered at Albany and of the general tendency to make special rules to govern automobilists.

Mr. Dill told of recent trips in an automobile and incidentally told of some troubles that he had in the early days of automobilism. He insisted that the automobile was of great benefit to the railroads as railroads required feeders. He argued that the automobile was the exponent of transportation and not the opponent.

APPEAL FOR RAILROAD SUPPORT

Turning to Senator Depew, Mr. Dill said:

And now, Mr. Past Master, having urged the claim of the automobilists to your kind regards as a master of transportation, I appeal to you as a past master in the co-ordinate field of statesmanship, and its resulting branch, politics.

In the attempt to secure good transportation laws and legislation fair to the automobilist, we seek your assistance and an alliance with you, not only as a railroad man, but as a past master in the arts and sciences of statesmanship. The automobilist is becoming an object of tender regard on the part of the legislator. The automobilist is being looked at by the politicians with the same tender solicitude that the lion looked at Daniel in the lions' den.

It becomes necessary for a man, when he acquires a machine, to register himself like any other well-appointed criminal.

The Bertillon system is applied to him and his machine and his servants.

He must carry a number which will distinguish him from other criminals.

His servant must wear his badge of servitude to him and to the State, displayed upon his chest in a prominent manner.

He must neither pass nor repass, going or coming, any vehicle or individual, any animal from the turtle to the dove if thereby he shall disturb the peace of mind of the particular man or animal, as the case may be.

He is subject to arrest under any provocation, and, indeed, without provocation, and his word (though under oath) before the local magistrate, has less weight to influence the combined guesses of the local magistrate and of the local police officer as to the speed at which he is traveling, than the babble of the brook on the side of the mountain.

The automobilist *per se* is a victim to every sort of public attack. And yet, although he bears all this with fortitude, although he recognizes that this is but the same attack that was made upon railroads and railroad men when they were strange to the public, nevertheless at the present time he feels that the attack made upon automobilists in the Legislature of New York in the present legislation before that body, is more than he can bear.

The Legislature of New York today

proposes to go back 100 years in progress, to take not one step backward but to turn backward with their entire force—by what?

By the insertion in the present act before the present Legislature of a provision giving local control to local municipalities. In other words, Mr. Chairman, this sends us back, in transportation, to the time when it required twenty-two tickets and seventeen different changes to go from New York to Chicago.

The Legislature of the State of New York proposes to give to each municipality that lies in the confines of the State of New York, power to make separate, conflicting and varied undisclosed legislation. It would be necessary for a man traveling from New York to Buffalo in an automobile to take an extra machine for the purpose of carrying with him what literature he could discover upon the subject of local regulation.

It might become necessary for him to carry as many different private marks of designation as there were different localities and local governments between New York City and the city of Buffalo.

It would seem necessary for him not only to send a courier ahead into each municipality to determine what peculiarity of local legislation existed there, and to treat with the local powers that be, but as well to halt the machine at the secret and undisclosed dividing lines between the various municipalities in order to determine when he had left A and come into B.

In other words, automobile traveling is practically impossible unless an ordinary man with ordinary care, with ordinary study, with ordinary observance of the rules and regulations of society, can ascertain what those rules are. Mr. Senator, as a master of transportation, as a past master in statesmanship, both at Washington and Albany, and as an eminent authority on law, you recognize the fact that even the courts of equity give relief to humble individuals against multifarious suits.

What the automobilist of today is seeking is a relief from multifarious grounds for arrest and litigation on the same subject-matter, namely, the attempt of the automobilist to go peaceably from one end of New York State to the other.

Such legislation cuts off the railroads in New York, the hotelkeeper in New York, the storekeeper in New York; cuts off from the income of every man who dispenses the daily expenses or luxuries of life in New York.

Such legislation will put every man in New York State who deals with automobilists out of business.

Such legislation will likewise tend to put the legislator who votes for it, out of business; because, just as the majority of automobiles are started by a crank, so the average automobilist is a crank to the extent that he is earnest, energetic and enthusiastic in support of his favorite pastime.

The Senator or Assemblyman who proposes and fathers local control, the party who supports in the legislature measures providing therefore, may be reasonably assured of 20,000 personally hostile voters in the State of New York, coming from the ranks of the automobilists.

COL. POPE ASKS AID FOR HIGHWAYS.

Colonel Albert A. Pope dwelt on the bicycle, which he declares almost as popular as ever and which is fast returning to its former position, more than 300,000 having been sold last year. He insisted that the railroads needed good roads, which would regulate the freight traffic.

At present there is a surfeit of freight at one time of the year when the roads are good, and a scarcity of it when the roads are bad. Good roads would relieve this condition.

He recited his famous motto: "One for all and all for one," stating that it applied to the railroad officials, who should work with the automobile manufacturers. The Colonel vigorously attacked the railroads for advancing the freight rates on bicycles and on automobiles and hoped for a return to the regular rates. He called upon Senator Depew to help pass the Brownlow bill at Washington which appropriates \$24,000,000 for road improvement, and wound up with a strong talk for the manufacturer of the American automobile which is now nearing perfection.

E. B. Gallaher spoke on the subject of foreign automobiles, stating that eventually America would lead the world in this department of manufacture, as it does in others. He told of the pioneer workers abroad who decided on things and stuck to them, while American manufacturers continued to originate, instead of taking the best that had been produced up to the time.

James H. MacDonald, State Highway Commissioner of Connecticut, gave an earnest talk on good roads, declaring that no transportation corporation could succeed without good highways as feeders.

"It may be," said he, "that God's highway, the ocean, carries more commerce now, but I hope the time will come when man's highway will be the broadest and best in the civilized world."

Colonel E. B. Hay, of Washington, talked humorously of the automobile as viewed from the layman's standpoint.

THE GUESTS OF HONOR.

The guests of honor included: Winthrop E. Scarritt, president Automobile Club of America; Windsor T. White, president National Association of Automobile Manufacturers; George H. Day, manager Association of Licensed Automobile Manufacturers; Charles Clifton, George N. Pierce Co.; E. J. Cutler, Knox Automobile Co.; Henry C. Cryder, Commercial Motor Co.; Charles E. Duryea, Duryea Power Co.; S. T. Davis, Jr., Locomobile Co. of America; W. D. Gash, of John Wanamaker; A. G. Garford, president Federal Manufacturing Co.; F. A. La Roche, American Darracq Automobile Co.; William E. Metzger, Detroit; Percy Owen, Winton Motor Carriage Co.; Colonel Albert A. Pope, Pope Manufacturing Co.; Lewis B. Parker, Hartford Rubber Works; Henry Sanderson, New York Transportation Co.; F. L. Smith, president Licensed Association of Automobile Manufacturers; E. R. Thomas, E. R. Thomas Motor Car Co.; J. Brisben Walker, Mobile Co. of America; M. J. Budlong, Electric Vehicle Co.; F. H. Kittredge, Peerless Motor Car Co.

In addition, there were editors and special writers from the class papers and daily papers interested in automobilism.

Correspondence

Lubrication of Gears.

Editor THE AUTOMOBILE:

Sir: Could I trouble you please to answer a few questions in regard to your Mr. Petard's interesting articles? In the issue of January 30, on page 138, he writes as follows: "A lubricant which seems to be forgotten by a great many of the manufacturers, and which does not deserve such neglect, is the mixture of graphite and heavy mineral greases." Then in the issue of February 13, page 200, is the following: "Gutters or grooves to collect the grit from the wear of the gears so that it would not mix with the oil splashed by the gears, and cause more wear." I think you will see from the foregoing that Mr. Petard favors the mixture in preference to the oil, but would not the mixture carry all the cuttings from the gears, so that same would wear the gears a great deal more than if oil was used without the gutter he speaks of? I would like to know your opinion, as I am about to purchase a car, and wish to decide all these points I possibly can before the season opens.

Did you ever hear of any cars being run on a mixture of graphite, of the proper thickness or weight, and cork ground up very small? This has been in use on the gears and pinions of electric cars, and the results have shown that it was a great success. You see, the cork acts as a cushion, and will take a lot of the jar off the gears, and also acts to a great extent in overcoming the noise. I was very anxious to try this last summer, but due to the gears in my car working very hard after they became heated, I was afraid that such a mixture might cause them to jam, and as it was necessary to pull the whole car to pieces to get at the gears, I refrained from trying the experiment.

When using the spark jump, or gap, in connection with dry batteries, does it mean that when the spark is working at the gap that it is also working correctly in the plug? What I am trying to do is to arrange the spark gaps on the dash of my car, in a box, so I can very easily see if the different cylinders are getting the proper spark, without taking out the spark plugs, and I was not sure whether the spark at the gap being O. K. would also mean that it was so at the plug.

H. RANSOM.

REPLY.

Editor THE AUTOMOBILE:

Sir: In reply to Mr. Ransom's letter, I will say that as he rightly states, my personal preferences are for the grease and graphite mixture especially for summer work. However, I will say that it does not seem to me that the mixture will cause more wear, as stated by Mr. Ransom. The chipping of the gears does not come so much from the ordinary wear by the rolling

contact of the gears in mesh as from the clashing of the teeth when the gears of a sliding gear transmission are brought in mesh. In the oil lubricated case the contact between the gears will be direct, the thin film of oil covering the metal being of no account, while in a grease and graphite lubricated case the gears are always covered with a rather thick coat of the mixture unless in mesh. When brought into mesh this will act as a cushion, and besides facilitating the meshing will lubricate the edges of the teeth until the proper position for meshing is found. Besides, even if cutting took place to any extent on the face of the teeth, it seems that the presence of the graphite would reduce it largely, if not stop it entirely. In summer use, the oils generally become too thin on account of the temperature and this loss of consistency causes a less satisfactory lubrication, unless extra heavy oils are used.

The cork and graphite mixture would, I believe, be a novelty for automobile work in the change speed or differential box, and would no doubt, be very good for the gears themselves, but would not the cork be likely to lodge in the keyways of the sliding gear, if any, and drying or getting compressed there might prevent proper working of the sliding combination.

In the wiring arrangement you propose, if a spark can be seen at the gap on the dash there is probably one in the cylinder, because the connection being a series one, it is not possible for a spark to occur at any one place unless the circuit is complete. It does not necessarily follow, however, that because a "fat" spark is seen at the gap one of a like character occurs at the plug. In an extreme case, a deposit of carbon sufficient to close the circuit at the plug would prevent any spark there whatever, though the spark would still occur regularly at the gap. In practice, however, the intensity and character of the spark at the gap will vary according to whether or not the plug is functioning properly, and a little experience will enable the driver to make a pretty close guess as to what is occurring in the cylinder.

RENE M. PETARD.

Two and Four Cycles.

Editor THE AUTOMOBILE:

Sir:—Under the heading of "Gasoline Engines for Marine Propulsion," Mr. Cox describes a two-cycle engine that first sucks its fuel into an enclosed crankcase, then compresses it,—opens a valve and discharges it into the cylinder, where it is again compressed and then fired.

The only possible result of drawing it into the crankcase and compressing it there, is to give the engine extra work. If there is any economy in doing this, please explain.

Again he explains that a two-cycle engine fires its charge every second complete revolution. That's correct. He fol-

lows this with an explanation of a four-cycle engine, saying: "During the first down-stroke the charge is sucked in" (That's the second down-stroke of a two-cycle) "compressed during the succeeding up-stroke, and ignited, expanded during the following down-stroke, and expelled during the next up-stroke, after which the cycle repeats itself."

Will you kindly explain this? I am tangled thereon. What does the charge expand into? If in the cylinder, so does the two cycle charge. Where does the four-cycle come in?

C. H.

The second part of our correspondent's query, which we will answer first, comes very likely from a confusion between the terms "stroke" and "revolution."

Mr. Cox in his paper said: "Gasoline engines are divided into two different types—the two-cycle and the four-cycle. In the former the piston receives an impulse once in every two strokes or each complete revolution, while in the latter the explosions occur every fourth stroke or every second revolution."

The two-cycle engine fires its charge every second stroke, as correctly stated by Mr. Cox, and not every second complete revolution as our correspondent seems to have understood it. Consequently there being only two motions of the piston, one downward and one upward, the name two-cycle is correctly used. In the four-cycle engine there are four strokes of the piston, since there are two strokes to every revolution. We are, however, at a loss to understand our correspondent's comparison between the suction stroke of the four-cycle engine and the "second down stroke of the two-cycle," as there is only one down-stroke between each explosion of a two-cycle engine.

The compression of the gases in the crankcase means additional work for the engine, but in all classes of machines certain work has to be performed to obtain results. If some of the engine's power was not used to give the fresh gases a sufficient pressure to expel the spent gases, no power at all would be produced by the engine. Our correspondent would probably agree that it would be good business to spend fifty cents to make a dollar, and he would also likely agree that it was not a bad bargain to expend one horsepower to get ten—provided that the ten could not be gotten for less. This is a necessity of the two-cycle engine, without which it could not exist in its present stage of perfection.

The expansion of the gases in both the two and four-cycle engines takes place in the cylinder, where it produces the power stroke of the engine.

Vanderbilt now awaits the arrival of his 120-horsepower Mercedes racer, which is expected to erase the record marks made by the ninety.

Waddington Foreign Car.

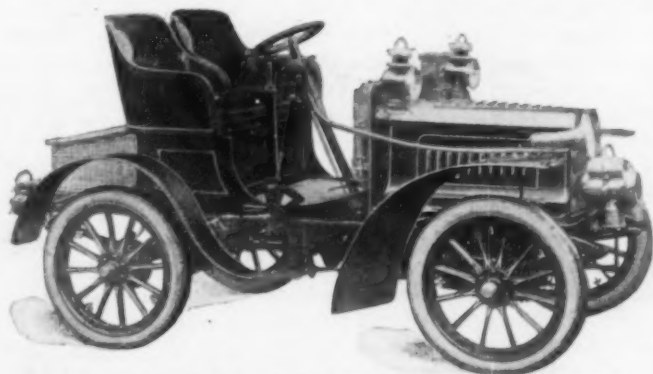
A light car especially designed for two persons is being imported by the Locke Regulator Company, of Salem, Mass., and sold under the name of the Waddington. It is a smart little machine, designed on thoroughly up-to-date lines with the engine in front, Mercedes type radiator and the mechanism patterned after the most expensive and highest powered French machines.

The power equipment is a 6-horse genuine DeDion engine of the latest pattern, driving through clash gears and a Cardan shaft to the live rear axle. The transmission gives three speeds forward with the usual reverse and direct drive on third speed, all controlled by a single side lever moving through a pair of notched quadrants. Three brakes are fitted, one on the drive and actuated by a foot pedal and the others on drums affixed to the rear wheels and operated by a conveniently located lever at the side of the car. The frame is built up tubular construction, a type of which has been found highly satisfactory in light car practice in Europe.

The same car is imported in larger sizes with engine equipments from 9 up to 20 horse-power, the engines having one, two and four cylinders.

The Acme Touring Car.

Platform springs are fitted to the Acme car, manufactured by the Acme Motor Car Co., of Reading, Pa. This unusual form of spring suspension is used both at the front and rear of the vehicle, and it is said by the makers to give a most luxurious effect to the riding qualities of the car.



WADDINGTON 6-HP. CAR, IMPORTED BY LOCKE REGULATOR CO.

The chassis is built up with a continuous frame of channel steel with suitable brackets formed integrally to carry the engine and transmission gears. The two-cylinder motor is carried in front under a square bonnet which is closed at the front with a bank of gilled copper radiating tubes. The radiator is provided at top and bottom with a box holding sufficient water for effective cooling. Circulation is by a centrifugal gear-driven pump. The

motor has a range of speed from 200 to 1,000 r.p.m., developing 16 horsepower at the maximum speed. A governor is fitted to an extension shaft with suitable provisions for accelerating by means of a hand lever on the steering column.

Transmission is by means of sliding gears, giving three speeds and the usual reverse, which in the case of this car is

arranged in a novel manner for a car so closely following French practice, the reverse being obtained by depressing a foot lever. Provision is made to prevent shifting of the gears when the reverse is in action, the automatic locking device also operating to prevent the reverse being thrown in when the forward gears are in use. From the transmission the drive is to the rear wheels by side chains. Brakes

are fitted to each member of the cross shaft, the strain being equalized by means of wire cables connected up to the actuating lever operated by pressure of the foot. The rear wheels are fitted with expanding brakes controlled by a lever at the side of the car.

Only one size and model of chassis is made but an option is offered in bodies, which may be of tonneau, single seat runabout or delivery wagon style.

Jones-Corbin Light Cars.

The attractive French type light cars made by the Jones-Corbin Company, of Philadelphia, are made in 8 and 16-horsepower sizes. The frame is of pressed steel and the motor of the DeDion type, one cylinder in the 8-horsepower and two cylinders in the 16-horsepower car. In



JONES-CORBIN 8-HP. LIGHT CAR WITH DE DION TYPE MOTOR.

other respects the two models are the same, except for a difference of eight inches in the wheelbase length.

The transmission is of the sliding-gear type, giving three speeds forward and reverse, with an interlocking device to prevent stripping, the gear changing lever releasing the clutch before shifting the gears. The drive is by side roller chains to the rear wheels. Double internal



ACME 16-HP. TOURING CAR, WITH VERTICAL TWO-CYLINDER ENGINE.

expanding brakes are provided on the rear wheels and a foot brake on the countershaft. The radiator is of the Mercedes type, and the circulation is forced by a friction driven pump. Ball and roller bearings are provided throughout. A hand wheel is used for steering, having gas and spark controls on the column.

The chassis can be fitted with either a runabout body with two individual seats, or with a tonneau body.



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Railroad Men and Automobilists Locomotion by rail and locomotion by road joined hands at the banquet of the Transportation Club in New York this week. The club is the representative organization of high railroad officials of this country, formed for the purposes of social intercourse and the serious discussion of professional topics. It has been the custom of this club to invite representative members of some one of the great transportation industries of the country to an annual dinner and discussion of the interests they represent. At this year's celebration the automobile industry was selected as the recipient of the courtesies of the Transportation Club, as reported at length in other pages in this issue.

The occasion was one of great significance, for it meant nothing less than the formal public recognition of the automobile as a permanent means of public transportation by the representatives of the immense railroad interests of America. No class of men are in a better position to speak authoritatively on the question of the serviceability of the automobile than the railway managers of the country. Their approval may seem of small account to some of those automobilists who have long since proven by practical experience the inestimable value of the automobile in this age of action. This approval, however, is of the very highest importance at this stage of the development of the industry. Coming, as it does, from such

an unquestionable source outside the automobile interests it will carry information and conviction to many who would refuse to accept any evidence that had its origin inside the trade or sport. Prejudice, the result of ignorance, still colors the view of thousands of influential persons when looking at the automobile and all that belongs to it. Even in the ranks of the railroad men themselves there are individuals who can see no good thing in automobilism. Only a few days ago a high railroad official in New York declared his belief that the automobile was a "fad," as was reported incidentally in these pages at the time. Many persons of the shallow type are likely in their beliefs to go with the crowd and so, even if such recognition as freely given by the Transportation Club does not illuminate their mental process, they will be among the foremost to adopt the viewpoint of those in authority.

As we have said, the gathering this week was of high significance and is really one of the mileposts that mark the irresistible progress of the automobile to complete and generous public and official recognition.



Delays in Building Cars.

It is fortunate for some of the manufacturers that the present season opens late, considering their unpreparedness to meet the immediate wants of buyers. New models of several popular cars are as scarce as hens' teeth, and it is not improbable that dissatisfaction may be expressed by customers later in the season by the cancellation of orders. Late shows are largely responsible for the delay in getting the factory output ready for market. Another and even more serious cause is a want of confidence on the part of some builders in the probable demand for their machines. Factory economies can be practiced most effectively when large lots of machines are put through, and no doubt few builders of high-priced cars would feel justified in turning out considerable numbers of cars on speculation simply for the benefit of such economies. The interest on capital locked up in unsold machines would more than offset the saving made in production in quantities. There is, however, a medium somewhere which, on the one hand, would give the builder a number of machines for early sale and, on the other, would not make prohibitive the costs of production of cars sold at competitive prices.

It is to be assumed that the maker of any car has confidence that the design and the proposed workmanship will meet the requirements of use. With this assumption and the fact that he must sell cars to be able to meet his fixed charges, operating expenses, and earn a profit, it is difficult to see good business judgment in any unnecessary delay in building cars. The rights of the selling agent also demand recog-

nition, for if the latter is to transact a profitable business he must have something more material to sell than promises.

The manufacturer cannot afford to lose sight of the enormous advantage that the sale of his new models early in the season confers, provided of course that the car is "value received." One good car sells another, or helps to. Again the man who has cars to sell, especially the retailer, and who can make, practically immediate deliveries has an enormously better chance of getting the cash than one who has to beg delay. There is no denying that when the automobiling fever seizes a man he is going to buy a car—if not one, then another.

The lateness of seasonable driving weather this year is causing among thousands an impatience to get out of doors that will result in enormous sales when fine weather arrives. The man with cars on the floor will command the situation, and before the season is over many who are now holding back will surely regret the policy of delay, linger and wait.



Medical Doctors Disagree.

It is proverbial that doctors disagree. A practical illustration of this peculiarity of medical science is obtained by a comparison of the opinions expressed by a Pacific coast medical authority and republished by us last week with those of a leading British authority. The latter, Professor Hugh Galt, delivered a lecture recently before The Scottish Automobile Club at Glasgow, on the subject of "The Medical Aspect of Motoring," and an abstract of this appears in the latest issue of our British contemporary *The Automotor Journal*. From this we reproduce the following authoritative opinion:

"The general effect of a motor run was to soothe the nerves by a well-defined process," said Professor Galt. "In the first place the excitement caused a quickening of the pulse, the heart's action being accelerated. The result was more frequent breathing, usually in the purest air, and the resulting augmentation of oxygen in the blood. Not only did this benefit the nerves. It is a recognized fact that long residence in the vitiated air of a city introduced poisonous secretions into the system which reacted upon the nerves in producing malaise, headaches, biliousness, a "run down" condition, and such like. A motor car run had the effect of stimulating the kidneys, liver, and to a less extent the bowels, by which the poisons referred to were released and carried away. This not only affected the physical health, but invigorated the mind also.

"Motoring also was a highly interesting hobby, and the value of a really attractive hobby could not be overestimated from a health point of view. Monotony was the great evil of many lives, affecting both the physical and mental welfare, and from

that depressing state motoring formed an unequalled relief.

"The ease by which the open country could be reached, without worry about trains or serious preparation, was a great advantage. Fresh air and fresh scenery, physical and mental benefits could be obtained in the minimum time and with the minimum trouble.

"Apart from mere bodily health, motoring constituted a valuable training in resource and self-reliance, for nothing he knew of could more thoroughly test a man's character in this respect than a motor car breakdown while miles from anywhere."

It would be hard to find two more diametrically opposed opinions on the same subject. In the use of the automobile the Pacific coast authority sees a new addition to the already numerous sources of nerve waste, while the British specialist finds it a most valuable aid in the soothing of the nervous system, and in producing a most healthful condition of the body and mind.

Personal experience plays an important part in the settlement of such questions, and we believe that this would cause the great majority of automobilists to agree heartily with Professor Galt. It is, of course, possible to overdo any sort of sport or recreation. The man who has sense enough to manage an automobile, however, may be trusted to have sense enough to know when the maximum amount of benefit from motoring is reached in his particular case and to appreciate the blessing and not abuse it. In all the centuries of civilization no invention has made the possession of good health by the busy city dweller more easily possible than the automobile.

BUFFALO PARK CLUB ELECTION.

Special Correspondence.

BUFFALO, March 21.—Officers for the ensuing year were elected last Friday by the board of governors of the Park Club, which is composed of Buffalo's most prominent automobilists. Two vacancies in the board were also filled, Edward A. Kent and George O. Wagner being elected. The officers elected were: President, Whitney G. Case; first vice-president, George S. Metcalfe; second vice-president, George Meadway; secretary, Thomas B. Lockwood; treasurer, Edward L. Koons. Edward A. Kent, Dr. Arthur W. Hurd and Charles E. Walbridge were elected the house committee, of which Whitney G. Case and Edward L. Koons are ex-officio members.

W. H. Pickens writes from New Orleans that he has bought Tom Cooper's racing car "999," and that Ed Hausman, who is driving it, will ride for the first time in the East on May 30, at one of the big meets, when he will go for the one-mile record.

454 INFRINGEMENTS FOUND AT SHOWS.

Licensed Association Patent Department
Reports them at Members' Meeting
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side" Manager.—One-third Increase
in Business Expected.

Of its twenty-nine members, twenty-three attended the meeting of the Association of Licensed Automobile Manufacturers on Wednesday when business of more than ordinary interest was transacted.

At Tuesday's meeting of the Executive Committee, with F. L. Smith, Charles Clifton, E. H. Cutler, M. J. Budlong and S. T. Davis, Jr., in attendance, C. A. Wardle, formerly connected with Locomobile, Ford and Knox interests, was appointed outside man for the Association to look after the out-of-town people in the same capacity as Geo. H. Day, as manager, does the business around New York. The latter finds it impossible to leave New York for the time required to properly care for out-of-town matters.

The committee also arranged for the services of a former government official to look after importations and the importation of cars through other than members of the A. L. A. M. It has been reported that an imported chassis, charged 45 per cent. in New York, has been admitted as partly manufactured material at other ports under duty of only 25 per cent.

At the meeting of the Association there was a frank discussion regarding this year's product and discounts. It was felt that the original plans will prove correct, and that the number of sales anticipated will be realized.

Each member was furnished with a list showing number of cars sold by each member during each quarter of last year, including total money and total for the year. This year's increase of business is figured at about 33 1-3 per cent., but if a 50 per cent. increase should come up, the makers are prepared for the demand.

Lists were furnished the members showing that from January, 1903, only one make, the Searchmont, retired from the licensed body while there were eighty-seven retirements among the outsiders.

The patent department in charge of Mr. Cunz, reported that the expert employed to visit the New York and Chicago shows, discovered 454 infringements by outsiders of patents owned or controlled by members of the A. L. A. M. Mr. Day said that proceedings will be started against a certain proportion of the infringers.

MAIL VOTE ON SHOW DATE.

M. J. Budlong, appointed chairman of the committee on shows of the National Association of Automobile Manufacturers, has selected Charles Clifton and Windsor T. White to serve with him, and a mail vote of the members regarding dates will be taken.

It is the general opinion that November is the proper time. The week before Christmas for the New York affair is not favored and the January date, as per contract, is sure to be used.

At a conference Wednesday between D. H. Post, president of the sundry association, and President White and Manager Miles, of the N. A. A. M., it was agreed to make an effort to provide at future shows a little better located space for the sundry and accessory interests. Both associations will work in harmony to attain the desired result.

CONSOLIDATION OF A. A. A. AND A. M. L.

It was learned on Wednesday that officials of the American Automobile Association and the American Motor League were in conference with a view of effecting a consolidation of the two organizations.

Although rumors of this sort have been in circulation since the show, this is the first meeting of the officers and the first steps taken in the direction of combining the two bodies, both of which were formed for practically the same objects.

It is understood the new organization will be named the American Motor Association or the American Automobile League, probably the former.

VANDERBILT CUP RACE ASSURED.

American Automobile Association officials expect to announce soon the details of the proposed long distance road race over Long Island for the cup offered by W. K. Vanderbilt, Jr., together with the conditions under the deed of gift.

A course has been selected, permission for the contest is practically assured, and when all arrangements have been made, Chairman Pardington, of the racing committee says an official announcement will be made.

AUTO RIDE FOR G. A. R. VETS.

Committees of the Massachusetts A. C. are planning to gather together in Boston at the time of the G. A. R. National Encampment there next August, enough motorists with their cars to take the National Encampment delegates for a ride through the Concord, Lexington, Charleston and Bunker Hill Revolutionary battlegrounds, and over the route of the British soldiers through Cambridge and Arlington. It is estimated that nearly 300 cars will be needed. Elliott C. Lee, president of the Massachusetts club and also of the State Automobile Association, is working to perfect the scheme.

The Minneapolis City Council has received a communication from Mayor Haynes, urging the adoption of an automobile ordinance that will conform with the State law.

ANNUAL MEETING OF THE N. Y. S. A. A.

Directors Re-elect Judge Hotchkiss President and F. H. Elliott Secretary-Treasurer.—Membership Now 1,500. Will act with A. A. A. in St. Louis Run.

Special Correspondence.

SYRACUSE, March 21.—Reports of the directors of the New York State Automobile Association read at their first annual meeting held here Saturday showed a membership of 1,500 automobilists enrolled in the organization since its formation last fall. The association, which was incorporated December 26, 1903, is greatly encouraged by the many evidences of interest which motor car owners generally, as well as its members, are exhibiting toward it.

Emerson Brooks and A. R. Pardington, chairman of the Racing Board of the American Automobile Association, both of New York; H. H. Mundy, of Utica, alternate for A. J. Baechle; President William H. Hotchkiss and Augustus H. Knoll, of Buffalo; S. C. Tallman, of Auburn; Harry S. Woodworth, of Rochester, and Hurlbut W. Smith and Secretary Frederick H. Elliott, of this city, were in attendance. Vice-president C. M. Page and Oliver A. Quayle, of Albany, and Alonzo McCohnie, of Troy, were represented by proxy.

ELECTION OF OFFICERS.

The election of officers to serve until April 1, 1905, resulted in the choice of Judge Hotchkiss to succeed himself as president and Mr. Elliott as secretary-treasurer. Charles M. Page, of the Albany Club, resigned as vice-president and Oliver W. Quayle, of the same club, was elected in his stead. The selection of Mr. Elliott to carry on the work of the association means that Syracuse will be the scene of a great part of the association's activity for the coming year.

Few changes were made in the committees, which were announced as follows:

Legislative—President Hotchkiss, chairman; W. S. Niles, of New York, H. W. Smith of Syracuse, William J. Youngs of Brooklyn, D. Arthur Smith of Binghamton, Charles T. Terry of New York, and Oliver A. Quayle of Albany.

Membership—Hurlbut W. Smith, chairman; F. J. Wagner of Buffalo, J. B. Taylor of Albany, H. H. Mundy of Utica, E. S. Partridge of New York, H. S. Woodworth of Rochester, Frank J. Webb of Brooklyn and S. C. Tallman of Auburn.

Good Roads—Emerson Brooks, chairman; George S. Larrabee of Syracuse, A. V. Brower of Utica, Dr. R. B. Avery of Auburn, Albert R. Shattuck of New York, Harry S. Woodworth of Rochester, Dr. W. E. Milbank of Albany, D. H. Lewis of Buffalo and Augustus Post of Brooklyn.

With the president as chairman, the officers and the chairmen of the respective committees form the Executive Committee.

The directors considered the Hill-Cocks automobile bill, originally drafted by President Hotchkiss and the Legislative Committee. It was generally believed that the measure with its amendments would be passed by the legislature. It was voted that each of the clubs in the association be represented at the meeting in Albany tomorrow to urge the passage of the measure and to try to secure uniform legislation as to speed, etc., thus doing away with local restrictions in the cities and villages of the State.

Chairman Smith of the membership committee reported that he had secured a list of the automobile owners of the State to the number of 6,000 to be used by the association in increasing its membership and making its work effective.

A resolution to the effect that the New York State Association cooperate with the American Automobile Association in every way possible to assist in the success of the World's Fair tour to St. Louis was adopted.

A radical change from the present method employed by the State in the building of highways was offered for consideration by Chairman Brooks of the good roads committee. He would provide a State board of highways under the direction of a competent engineer. Mr. Brooks contended that all roads should not be constructed according to the same specifications, but that plans should be made in conformity with the material at hand.

ST. LOUIS RUN OFFICIALS APPOINTED.

Hurlbut W. Smith, of the touring committee of the American Automobile Association, who will have charge of the World's Fair tourists during their passage across the State from Albany to Buffalo, has appointed R. W. Whipple of Binghamton and Jesse B. Eccleston of Buffalo to assist him in the work. H. H. Mundy has been appointed to act in this capacity at Utica and others will be named at Albany and Buffalo.

Mr. Smith has made arrangements to make a run in his touring car from Albany to the Bison City just as soon as the roads improve a bit with the idea of choosing the best highways for the tourists to follow.

DETROIT COUNTRY CLUBHOUSE

Private Home Fifteen Miles Out to be Bought or Leased.

Special Correspondence.

DETROIT, March 19.—The Detroit Automobile Club is planning big things for the season of 1904, including the purchase of new quarters in the country and quadrupling the club membership. The club is arranging to buy or lease a piece of property with a large building on it about fifteen miles from Detroit and a mile and a half from Birmingham, Mich. This property is owned by Stephen Baldwin and is but a short distance from the property on which the club originally intended to erect a new building. This plan has been given

up, however, and the old building, which has not been occupied for the last two years, will be renovated and remodeled in parts. About \$1,200 will be spent on it, according to the present plan. Verandas will be built on all sides of the building, a large and handsome dining hall will be made in one portion of the house and other conveniences provided to make it a model clubhouse. The fifteen-mile run from Detroit is over a good road and the members are pleased at the prospect of a summer home there.

The membership will be increased, if possible, to between 400 and 500, and efforts will be put forth to make this one of the best clubs in the country. The present membership is more than 100.

A good roads movement is also in progress in Detroit and the club is issuing a map and guide to the roads of Michigan for the benefit of tourists, describing every mile of every road of importance in the State.

JERSEY CLUB BANQUET.

Special Correspondence.

NEWARK, March 19.—The New Jersey Automobile and Motor Club held its first annual banquet Tuesday evening, March 15, more than 70 of the 140 members attending.

Dr. Samuel E. Robertson, of the house committee, acted as toastmaster, and the speakers were President B. M. Shanley, Jr., Vice-President F. R. Pratt, Angus Sinclair, R. C. Jenkinson and James Reilly. Mr. Shanley spoke on the subject, "Why We Exist," and in a short address outlined the mutual protection policy of the club by which the organization guarantees to defend a member if unjustly prosecuted in an automobile suit.

Mr. Pratt gave a brief resumé of what has been accomplished in the effort to secure improvement of the roads, to maintain the rights of automobilists on the highways, etc. Mr. Sinclair spoke on the topic "Can the Horse and the Automobile Exist Together," and urged upon the members the importance of good fellowship between them and horse owners. Mr. Reilly, secretary of the Board of Trade, and a prominent member of the New Jersey Horse Drivers' Association, was an invited guest, and said that as far as his association was concerned, automobilists need have no fear of being persecuted as long as they did not demand the entire road and were willing to treat horse owners as having equal road rights with themselves.

WORCESTER CLUB ACTIVITIES.

Special Correspondence.

WORCESTER, March 19.—Ten new applications for membership were received at the meeting of the board of governors of the Worcester Automobile Club, held last Monday. The governors are planning

great club activity for the coming season and are talking of having some local races. Already a race committee has been appointed, as follows: Asa Goddard, president of the club; Percival Whittall, and Alexander Bowler. The following were appointed Worcester representatives on the New England committee on arrangements for the St. Louis tour: Fred. S. Taylor, James A. Saxe, and Charles Crompton. The Boston show was liberally attended by Worcester motorists, and local dealers are expecting to make many sales as a result of the interest developed.

A. C. A. AUTO RUNS.

For its annual spring run, the members of the Automobile Club of America, will journey to Gettysburg, Pa., by way of Philadelphia and York, returning by way of Philadelphia, Atlantic City and Lakewood. The run will leave New York Thursday, May 26, and eight days will be occupied in the journey.

At its meeting on Monday, the Runs and Tours Committee of the Club, announced that the run would start from New York on May 26, and on the first day 100 miles will be covered, with the night stop at Philadelphia. York, Pa., requiring a 91-mile trip, will be the destination on the second day and the 30-mile run to Gettysburg will be made on Sunday morning. Returning, the party will leave on Memorial Day, on Monday, May 30, going first to Philadelphia, 121 miles; the following day to Atlantic City, 61 miles; the third day, to Lakewood, 67 miles, and the fourth day to New York, 60 miles, arriving on the night of June 3. The total distance is about 475 miles.

The Grand Rapids A. C. expects to be represented in the A. A. A. run to St. Louis next summer by more than a score of machines, starting August 4.

The annual business meeting and election of the Automobile Club of Bridgeport, Conn., will be held April 4, followed by the annual banquet.

It is highly probable that the Automobile Club of Buffalo will arrange some sort of entertainment for the tourists when the New England contingent of the St. Louis run arrives in the Bison City on July 30.

Arrangements have been made by the Chicago A. C. with the Evanston (Ill.) Boat Club, whereby members of the former may enjoy the lake shore clubhouse of the boat club during the driving season. The house will be refurnished throughout.

The New Orleans A. C. will have a strong delegation on the floor in the Southern Good Roads Convention to be held in the Crescent City on April 6 and 7, under the auspices of the New Orleans Progressive Union. The automobile club will support and urge methods for the improvement of the country roads in every locality of the State.

The Massachusetts A. C. has secured a sanction from the A. A. A. racing board for its second annual hill-climbing contest to be held April 19 on Commonwealth Avenue Hill, Boston. It has not been decided whether classification of cars will be by weight or selling price. Silver cups will be awarded to the winners in the various class events. Entry blanks were issued during the auto show in Boston last week.

Members of the Bronx Automobile Club have just purchased new cars as follows: President Edgar T. Weed, the latest model Searchmont; Dr. A. C. Geyser, a Winton touring car; Dr. W. H. Meyer, an Eldredge road car, and Secretary-Treasurer J. Stuart Blackton, a new type Searchmont touring car. About thirty first-class machines are now owned by the club and there will be considerable "chug chugging" in the Bronx very shortly.

New members were admitted by the Philadelphia Motorcycle Club at its regular meeting recently, bringing the total membership up to forty-four. Alterations and repairs are being made to the clubhouse at 2513 North Broad Street and the club expects to occupy the new quarters about April 1. The club was organized August 31 last with fifteen charter members, Charles Krauss being the leading spirit in its formation. Meetings have been

held at 1406 Oxford Street. The officers are as follows: William Gilmore, president; Walter Buch, vice-president; Chas. Krauss, secretary-treasurer; John Mohr, captain; Harry Schleter, first lieutenant; Albert Warrington, second lieutenant; Christ. Feiler, color-bearer.

All the preliminary details for the holding of a big race meet on the Readville track, Boston, on May 30, have been completed by the racing committee of the Massachusetts A. C., which has secured a sanction from the A. A. A. Several local agents have offered to enter a number of cars in class events if these are put on the program, and it is proposed also to put on a race open only to members of New England automobile clubs.

Every New England city in which an automobile club has been formed—eighteen in all—will be represented in the July-August run to the World's Fair, according to Charles J. Glidden, of Boston, who was elected president of the New England division of the tour-committee of the A. A. A. Mr. Glidden estimates that 250 motorists will start from that section, and he says that the enthusiasm in the project is contagious. S. F. Edge, the English driver, will accompany them. Mr. Glidden will sail for Europe on April 26 to attend the Gordon Bennett race, returning to take part in the St. Louis run.



GROUP OF OFFICERS OF THE AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA.

The photograph herewith reproduced shows the officers of the Automobile Club of Southern California in front of the Court House in Los Angeles, just before the start of the club run to Playa del Rey, on January 26, 1904. At the wheel is T. O. Johnson, second vice-president of the club and owner of the 1904 Peerless car shown, and by his side is President Clark, of the Los Angeles & Pacific Railway Co. In the tonneau sits Dr. Milbank Johnson, president of the club; on the step to the left is George B. Ellis and with him is A. N. Jung. Frank A. Garbutt, first vice-president of the club and a prominent amateur racing man of the Pacific Coast, leans against the tonneau, and standing to his left in order are H. C. Turner and Secretary A. P. Fleming, of the club.

LEGISLATION AT ALBANY.

Vicious Amendment to Permit Local Speed Regulations is Proposed.

There is much concern over the proposed automobile legislation at Albany, and present reports indicate a desire on the part of the committee in charge to incorporate a provision which will permit local authorities to regulate the speed of power-driven machines.

The National Association of Automobile Manufacturers has taken the matter in hand, and its counsel, Charles Thaddeus Terry, has asked motorists to write to the committee on roads and bridges.

In his letter to the National Association, Mr. Terry, who is a member of the New York State Automobile Association which introduced the bill, says:

"It is a critical time with the automobile bill which we prepared and have before both branches of the State legislature. There is a strong disposition in the Senate committee, which has it in charge, (the Committee on Roads and Bridges) to tack on to the bill a provision allowing local boards of highway commissioners or supervisors or common council to insert provisions regulating speed to cover their particular localities. The viciousness of such a provision is obvious. An automobilist traveling through the State could never know whether he was obeying or violating the law. He could pass an imaginary line, say, from one county into another, or from one town to another, and although ignorant of the local ordinances would nevertheless violate the law, because it might happen that the permitted speed on one side of the line was fifteen miles an hour, whereas on the other side of the line it might be reduced to eight miles. He might carry in his pocket all the local ordinances passed in the two or three hundred different towns, counties, villages and municipalities throughout the State, and he might study these so as to gain a reasonable familiarity with them, and he might even stop every mile or so, and make an investigation as to where the imaginary line dividing the two counties or towns was located, but even then he would not be safe, because the power given to local boards, would enable them to change their own ordinance at any time by amendment or substitution, and thus lead to the further confusion of the automobilists.

"In a word, such a provision in the bill would be the height of ridiculousness not to say insanity, and could not result in anything but a blind hostility to automobilists.

"What I would very much like to have you do is to secure letters from, say, half a dozen influential automobilists or automobile manufacturers in New York City or elsewhere in New York, addressed to the Committee on Roads and Bridges, and setting forth emphatically the objections to the proposed amendment to the bill.

"There should be one law governing the whole of New York, else there could be no safety for the drivers of automobiles.

"The provision in question would result in traps for the automobilist at every turn and defeat the very purpose of any automobile law, which is the protection of the public, because it would become so impossible for the automobilist to know what the law was in the various parts of the State that he would of necessity be obliged to ignore the law entirely."

"AUTO" RAILROAD TRAINS.

Experimental Cars Running with Gardner-Serpellet System in Europe.

The experiments with a view to adapting the Gardner-Serpellet steam system to tram and railroad cars, each car having its own power plant, that have been carried on for some years by this well-known firm of French automobile constructors, have taken practical form. The system is now in use on two tramway lines in Paris and has been used on a short-line in Wurtemberg, Germany, for some time. It will in a few weeks be tried on a more extensive scale on the Paris, Lyons and Mediterranean Railway and if successful may revolutionize railway travel. The cars will not be coupled together, as the French regulations discountenance that, but each will have its own motor and carry from thirty to forty passengers with about two and a half tons of baggage. The speed will be restricted to thirty miles an hour.

Arrangements have also been made to run a line of cars between Antwerp and Brussels at a rate of seventy-five miles an hour, and even this high speed could be exceeded if desired.

The cost of each car will not exceed \$10,000, machinery and all. No stoker is required, as the petroleum is pumped to the burners mechanically. The motion is devoid of jerking, jolting, or shaking and the inventors assert that a train could be stopped in 200 yards, even when traveling at over seventy miles an hour. The only danger to be guarded against is that of fire from overheating.

The advantages of such a system are obvious. The fastest express train does not ever average more than fifty-five miles an hour, and this speed could not be greatly surpassed without increasing the weight of the engine and consequently causing extra wear and tear on the road. An express locomotive of the present day weighs about 110 tons, and a great part of this weight could be saved. Automobiles have accomplished eighty miles an hour on the highroad, and could, of course, far exceed that speed on steel rails. Another great advantage is that trains would not have to stop in the course of a long run to take on water or fuel. The longest run made by an English train without stoppage is rather less than 200 miles, but an "automobile train" could easily go four or five times that distance on one filling.

AGREE ON HILL BILL.

Last Amendment Prohibits Discrimination Against Automobile Drivers.

Special Correspondence.

ALBANY, March 23.—What is now considered to be the final amended form of the Hill automobile bill was ordered reported by the Senate Committee on Roads and Bridges to the Senate this morning. Senator Allds, who has been fighting for the right of the city and village to regulate the speed of motor vehicles in their own limits, says he had not worked so hard this session to get any other bill into some shape that all could agree upon. W. H. Hotchkiss of Buffalo, president of the State Automobile Association, who originally drafted the bill, says he was unwilling to concede the principle of allowing localities to regulate speed and had insisted that the State law should govern the rate of speed everywhere. But a fairly satisfactory agreement had been reached, and the bill which the Senate committee reports today is the one which all have agreed to support.

The feature of the last compromise amendment is the placing of the motor vehicle on an equality before the law with other vehicles and the prohibition of the enactment of regulations enforced by penalties which shall apply to the automobile and not to other vehicles however propelled.

The bill provides three legal rates of speed for the whole State—ten miles an hour for the villages closely built up; fifteen miles for the more open sections; and twenty miles for the open country on the highways. The bill concedes the right of localities to make other regulations in villages and cities. Cities may fix by regulation and ordinance any rate they see fit but must indicate by signs on the street where the extra low rate of speed must not be exceeded. Villages may do the same, to a minimum rate of ten miles an hour unless other vehicles are similarly limited and restricted. It is provided that the same penalty inflicted on the driver of a horse or a trolley car that exceeds the speed limits of the city or village shall be inflicted on the automobilist for fast driving.

Senator Allds and Mr. Hotchkiss both said that the bill as reported from the Senate Roads and Bridges Committee would be reprinted at once and remain in general orders of the Senate until, in its reprinted shape, it could be passed, when it would be put through the Senate.

Mr. Hotchkiss remained over last night and had a conference with the assemblymen over the Cocks assembly bill, which still differs in several respects from the Hill bill, which is now the official proposed law. He will endeavor to have the assembly bill amended to correspond with the Senate bill.

Racing Cars that Will Be Seen in Competition this Season, and Their Drivers.

That racing has assumed an important position in the automobile world, is proved by cars that have already appeared in competition and by the number that are in course of construction or that have been ordered from abroad. In going over the names of machines that have secured records during the past year, it is worth noting that there are fourteen that have negotiated miles at better than a mile-a-minute pace. No doubt there are many other machines capable of that speed, but they have yet to prove it in public. A general survey of the field shows the following machines to be among the possibilities for automobile racing this year, including machines under construction here, the racers being built for the International Cup contest and cars that are known to have been ordered from Europe:

Machine.	Horsepower.	Best Mile.	Owner.	Probable Driver.
Mercedes	90	0:39	W. K. Vanderbilt, Jr.	W. K. Vanderbilt, Jr.
Ford	80	0:39 2-5	William Pickens	E. C. Hausman.
Winton	80	0:43	Winton Motor Carriage Co.	Barney Oldfield.
Mercedes	60	0:43 1-5	S. B. Stevens	S. B. Stevens.
Mercedes	60	0:43 2-5	F. L. Bowden	H. L. Bowden.
Peerless	80	0:45 2-5	Peerless Motor Car Co.	Joseph Tracy.
Packard	24	0:46 2-5	Packard Motor Car Co.	Charles Schmidt.
Darracq	40	0:48 2-5	F. A. La Roche	F. A. La Roche.
Renault	30	0:48 3-5	W. G. Brokaw	M. G. Bernin.
Stanley (steam)	6	0:55 2-5	Louis S. Ross	Louis S. Ross.
Decauville	40	0:55 4-5	B. M. Shanley, Jr.	E. Fredericks.
Stevens-Duryea	14	0:57 1-5	J. Stevens, Arms & Tool Co.	Otto Nestman.
Mercedes	40	0:58	James L. Breese	James L. Breese.
Winton	40	0:58 1-5	Winton Motor Carriage Co.	Barney Oldfield.
Christie	30	1:00	Walter Christie	Walter Christie.
Baker (electric)	1 3-4	1:00 3-5	Baker Motor Vehicle Co.	W. J. Hastings.
Cannon (steam)	8	1:01	Geo. C. Cannon	Geo. C. Cannon.
Mercedes	40	1:03 1-5	O. W. Bright	
Panhard	35	1:06 3-5	J. Insley Blair	M. W. Ehrlich.
Buffum	100		Central Automobile Co.	Lafayette Markle.
Columbia	60		Electric Vehicle Co.	E. C. Bald.
Decauville	60		Standard Automobile Co.	
Georges Richard-Brasier	60		E. B. Gallaher	
Packard	60		Packard Motor Car Co.	Albert Champion.
White (steam)			White Sewing Machine Co.	
DeDietrich	30		William Wallace	William Wallace.
Stanley (steam)			F. L. Stanley	F. L. Stanley.
Peerless			Peerless Motor Car Co.	Joseph Tracy.
Sampson			Alden Sampson, 2d	Cecil Taylor.
Special			Peter Cooper Hewitt.	
Special	80		Harry Harkness.	Harry Harkness.
F. I. A. T.			Hollander & Tangeman	
Clement	60		S. B. Bowman Co. (Agt.)	D. Lamberjack.
Napier	60		Central Automobile Co.	Lafayette Markle.
Pierce			George N. Pierce Co.	
Franklin			H. H. Franklin Co.	John Wilkinson.
Darracq	60		F. A. La Roche	F. A. La Roche.
Tincher	100		F. L. Tincher	
Pope-Toledo			Orlando Weber	John Fisher
DeDion			K. A. Skinner	K. A. Skinner

A GREAT RACING SEASON.

Sanctions Granted for Readville and Empire Tracks for May 30.

Special Correspondence.

SYRACUSE, March 21.—Chairman A. R. Pardington of the A. A. A. racing board, stated, while here Saturday, that he has had no application from the Automobile Club of Syracuse for a sanction for a race meeting to be held here during the State Fair in September, but he will reserve September 10, the desirable date, for this purpose.

Chairman Pardington stated that he is already assured that this season will be the most successful in the history of American automobile racing. He has already granted a sanction for a big hill-climbing contest to be held in Commonwealth Avenue, Boston, April 19, and for the meeting at the Readville track under the auspices of the Massachusetts Automobile Club, May 30, and another at Empire track, Yonkers, on the same date. Dates

have also been awarded to Chicago, Cleveland and Detroit clubs.

It is by no means certain that an automobile race meeting will be held in connection with the State Fair here this year. The club members are waiting for the State Fair Commission to make the overtures. Last season, owing to accidents to Oldfield and other drivers just before the meeting here, it was impossible to make it the success anticipated.

A. A. A. TO SUSPEND OLDFIELD?

Because he has been riding at meets not sanctioned by the American Automobile Association and because of some of his recent match races in the South, Barney Oldfield, the champion automobile driver of America, will probably be suspended by the racing board of the American Automobile Association.

A. R. Pardington, chairman, said yesterday that Oldfield's actions can be taken as nothing more than open defiance of the A. A. A.'s governing power in automobile

racing, and when rules are violated no better example can be made than of the most important man in the sport. He believes the suspension will be announced after the next board meeting.

Even a short suspension at this time would bar Oldfield from trying for any records at Ormond Beach during the elimination trials.

Just what explanation the champion driver will offer for his disregard of A. A. A. rules should be interesting. Since last fall, when a couple of rulings distasteful to Oldfield were made by Chairman Pardington the former has publicly stated that he would never again ride under the rules of the A. A. A. This statement he seems to have religiously followed.

OLDFIELD'S SPRING PROGRAM.

Barney Oldfield will take the two Bullets, No. 2 and No. 3, from New Orleans to the Ormond-Daytona Beach for trials against the mile record. After the Florida engagement he will return

North for a season of track racing, beginning May 30. He has arranged to go to California next fall, leaving the East immediately after Labor Day and appearing on the trip at Omaha, Denver, Salt Lake City, Seattle, Portland, San Francisco, Los Angeles and one or two smaller places in California. Oldfield says he has never received a communication from J. J. Ryan, the St. Louis horserace plunger, who is reported to have challenged him to a match race for \$10,000. He also says that "Colonel Billy" Thompson, Charlie Mitchell's ex-manager, has nothing to do with his affairs. Tom Cooper, the ex-champion bicyclist, is his racing manager.

KING'S HIGHWAY MOVEMENT.

San Francisco-San Diego Road Committee Adopts Resolutions.

Special Correspondence.

LOS ANGELES, March 17.—The committee of fifteen to form the State organization for the establishment of "El Camino Real" met in the Johnson Building a few days ago. The full committee as it now stands is composed of the following:

A. P. Fleming, chairman; W. R. Bacon, president of the Historical Society of Southern California; Hon. H. E. Carter; Mrs. A. S. C. Forbes, chairman of the history and landmarks section of Women's Federated Clubs; E. T. Earl, Dr. O. S. Barnum, League of American Wheelmen; B. W. Hahn, Pasadena, Cal.; A. B. Cass, member board of directors Chamber of Commerce; C. M. Gidney, secretary Chamber of Commerce, Santa Barbara, Cal.; Judge R. S. Blackstock, Ventura, Cal.; Hon. H. P. Wood, secretary Chamber of Commerce, San Diego, Cal.; Hon. W. M. Peck, Riverside, Cal.; Hon. Stephen V. Kelley, San Bernardino, Cal.; Judge Frank Ey, member city council, Santa Ana, Cal.

Invitations were extended to the committee to call the State convention together at Santa Barbara, Los Angeles and San Francisco. They were referred to the sub-committee. The following resolution was then adopted on motion of Dr. Barnum, and the chairman appointed Dr. O. S. Barnum and Mrs. A. S. C. Forbes to act with him at the meeting of the highway committee of the Chamber of Commerce:

"Whereas, W. H. Moore, president of the National Good Roads Association, has, in capacity as such officer, visited our city; and

"Whereas, It is evident that both the convention that created the appointing power that created this committee and the National Association are striving for the same thing, namely: a great State highway, connecting the State from the extreme north to the extreme south; and,

"Whereas, Conditions that prevail in California are peculiar and unique in this, that within our borders are located the twenty-one Franciscan missions, whose

history and whose preservation are dear, not only to our people, but the whole people of the United States;

"Therefore, be it resolved, That, while we are willing to work in harmony with the National Association for the constructing of a State highway from the north end to the south of our beautiful State, we do not approve, but strongly condemn, any movement that looks to the construction of a State highway that is not constructed with the view of connecting, as far as practicable by such highway, our sacred missions, and preserving, as far as practicable, the ancient El Camino Real, or King's Highway, as traveled by the padres."

Further resolutions were also adopted in which it was the object of the committee to preserve the Federal Government road from San Diego to San Francisco, connecting the twenty-one Franciscan missions, securing surveys in counties, securing the co-operation of the municipalities and the State and Federal Government, rights of way, appropriation of funds, and to create and foster interest in the ornamentation of the borders of public roads, and by every possible means to create public interest in the national highway and the Camino Real.

W. H. Moore is now in San Francisco in connection with the proposed State convention to be held in this city or San Francisco between April 12 and 15, preliminary to the national and international good roads convention to be held in St. Louis in May, and committees will be appointed from this State.

Gov. Pardee will be asked to appoint one delegate from each county, and a certain number of delegates-at-large. The commercial bodies will also be represented by five delegates, and the mayors of the cities and the railroad companies will likewise, it is expected, send representatives to the meeting.

GOOD ROADS AT LOS ANGELES.

Special Correspondence.

LOS ANGELES, Cal., March 16.—The county road supervisors were recently invited by the Automobile Club of Southern California to take a trip to inspect a projected change of roadway. H. E. Huntington, president of the Pacific Electric Railway, hearing of this, asked that both the supervisors and automobile club consider themselves his guests, so, on a special car, with right of way, and with about twenty prominent members of the club and all the supervisors, the trip was begun from Sixth and Main streets to East Lake Park. Here it is intended to have a new road intersect that will remove the pleasure vehicles at least, from the congested street running parallel with East Lake Park and joining to the road to Pasadena. After this inspection the trip was resumed to Alhambra, where on the way a fine chance was had to view Mr. Hun-

tington's magnificent boulevard system of oiled roads paralleling either side of the track of the Pacific electric suburban service.

A stop was made in "Dolgeville," a new manufacturing suburb, where all were shown through the large felt shoe factory of Alfred Dolge. After that a run was made to Pasadena and on to Altadena and Rubio Cañon, where the entire party was given a ride up the incline to Mount Lowe, after which the return trip was made to Los Angeles. It is the intention of the members of the Automobile Club of Southern California to periodically invite the road supervisors on such trips as these, so as to thoroughly acquaint all parties with the needs of road improvement.

Southern California residents owe a debt of gratitude for the stand taken by the Automobile Club of Southern California for good roads and lots of them. As this club is composed of the heaviest taxpayers in the State, as well as property owners, much weight is given to its wishes, and too much cannot be said in favor of the present board of supervisors of Los Angeles County, who meet the club halfway, always, in the work for the common good of road users.

DRIVE THROUGH SNOW DRIFTS.

The "White Angel" Does Stunts in Cream City Big Storm.

Special Correspondence.

MILWAUKEE, March 19.—An invitation to take an automobile ride in the heaviest snowstorm that has swept this region since 1887 was a bit out of the ordinary but when it was extended to the writer last Monday after the storm had raged throughout Sunday and the snow still continued to fall driven by a strong wind, the desire for the novel experience caused a ready acceptance. The fact that the car was the "White Angel" Pope-Toledo 24-horsepower exhibition machine that attracted so much attention at the recent Chicago automobile show also had much to do with deciding the question whether to accept or decline. The machine had been used for demonstrating on the streets of the Windy City by Orlando F. Weber since the show, and two weeks ago was shipped to Milwaukee to be used for a time, as the Orlando F. Weber Company is Wisconsin and Illinois agents for the Pope cars. William D. Foreman, Chicago demonstrator for the Weber company, accompanied the "White Angel" to the Cream City, and it was he who handled her masterfully in the snowdrifts of that memorable Monday.

The car, with a party of four, started from the Plankinton Hotel at about 4 o'clock Monday afternoon when the snow had been falling thickly and steadily for more than twenty-four hours. A run was first made about the downtown streets, Mr. Foreman at times following the tracks

of the street cars. Sometimes, when an especially large crowd of interested pedestrians was looking on, he would swerve aside into the great drifts that bordered the tracks and plow through snow more than four feet deep at high speed, throwing up smothering clouds that would settle back upon the occupants of the car.

After a short run on the East Side, the car was started on a run of about eight miles to the northern city limits and then the guests of Alfred Reeke, manager of the Milwaukee showrooms, were given an opportunity to see what the big machine could really do. Several times the car was temporarily stalled in drifts that rose above the hubs, but her engine always enabled her to back out of the drifts to gain headway for a new onslaught. Only once during the afternoon was it necessary for the occupants to "get out and push" and that was when, as darkness was coming on, we ran into a huge drift at Twenty-fifth Street and Fond du Lac Avenue. Here we were hopelessly stalled and all four members of the party were compelled to climb out into snow nearly waist deep and participate in a five-minute push-ball struggle before the thoroughly clogged car was released. Then the dash through the snow began again and after three hours in which faces were constantly stung by the driving flakes the "White Angel," having demonstrated her adaptability to Arctic conditions, drew up at a downtown restaurant and four hungry men had supper.

AUTO BOATS IN NORTHWEST.

Twin Cities the Center of Ideal Aquatic Motoring Section.

Special Correspondence.

MINNEAPOLIS, March 19.—The Minneapolitan who can afford to maintain a summer home at Lake Minnetonka, divides his time between the automobile and the motor launch. By auto he goes to and from business, and his leisure moments at the lake are spent in his launch plying the waters of this beautiful inland sheet of water.

Aquatic automobiling is a sport that is increasing rapidly here. Last season about one hundred boats were maintained. Two of the largest are owned by E. J. Phelps, president of the Minneapolis Automobile Club, and A. C. Loring. Each has a forty-foot launch.

The same conditions that prevail at Minnetonka exist at White Bear Lake, the summer resort of St. Paul. The two lakes are fifteen miles from the respective cities. The two lakes named are not the only ones near here that are suitable for auto-boating, although they are the largest in this vicinity. Minnesota is bejeweled with lakes, many of them large. Some are popular resorts for their sections, while even people from the East visit the better-known ones during the summer.

A few launches are already to be found at Walker on Leech Lake, near the Indian reservation. The same can be said of Lake Osakis, near St. Cloud, seventy-five miles from here, and of Lake Buffalo and Lake Pulaski, forty miles west of Minneapolis. The great opportunities for power-boating will not be overlooked by the residents of Duluth, on Lake Superior.

The Mississippi River also affords unusual opportunities, and some small launches have been in use during the past two seasons. A few launches are owned by residents of Shakopee, fifteen miles from the mouth of the Minnesota River, where it empties into the Mississippi at Fort Snelling. Just below St. Paul, the St. Croix River empties into the Mississippi, after flowing down through the beautiful Dalles.

Several concerns in Minneapolis and St. Paul are now giving especial attention to the manufacture of gasoline launches, and they all report that the indications for increased business are excellent.

WORLD'S FAIR CONTINGENT GROWING.

Special Correspondence.

MILWAUKEE, March 19.—As the prospect of good weather approaches, the number of Milwaukeeans who are planning to make the run to the World's Fair at St. Louis this summer increases. The latest addition to the list is Harry Berger, a member of the local Chamber of Commerce, who has bought a large Peerless touring car and is now anxiously awaiting the advent of good weather.

Probably twenty or more Milwaukee enthusiasts will make the run, and plans are now under way to arrange the dates to conform with those of the tour being arranged by the American Automobile Association. If it can be arranged the tourists from Milwaukee, Minneapolis, St. Paul and the northwest will join the easterners at Chicago on Sunday, August 7, and continue on with them to St. Louis. George Foster, of Brandon, Wis., who has purchased a big yellow Winton touring car from the Bates-Odenbrett Company, of this city, is also planning to make the trip.

NEW GARAGE IN LOS ANGELES.

Special Correspondence.

LOS ANGELES, Cal., March 15.—The California Motor Car Company has just been incorporated here with a capital of \$100,000, all of which has been subscribed. The officers of the company are Chas. E. Anthony, president; Earl C. Anthony, vice-president and manager, and Roy P. Hillman, secretary and treasurer; E. E. Russell, superintendent of repairs.

Temporary quarters have been secured on South Broadway until the fine building now under process of construction is ready for occupancy, which will be in about sixty days. This will have a 70-foot fronting on South Hill Street and will be

165 feet deep. Only gasoline and electric machines will be handled and these will be of the most prominent models. This company has the South California agency for the Pope-Toledo, National electric, and Northern runabout and touring car, and has secured the State agency for the Thomas three-cylinder 24-horsepower touring car, besides handling Smith & Mabley's line of French cars.

The officers of the company are young, influential and energetic business men of this city, with plenty of money to make a success of the business from the start, and associated with them will be E. E. Russell, who is a thoroughly competent mechanic. A full line of parts and accessories will be handled, as there is no place in town, at present, where there is a complete line in the true sense of the word.

There will be attached to the other service an "automobile ambulance" containing repair outfit, spare tires and plugs and the like, for hurry calls for repairs to machines that have gotten out of fix on the road. This ambulance will be ready day and night for instant duty.

The building will include the most improved tools for the work intended, and will be an innovation in its line hereabouts. Of the front 58 feet by 85 feet will be taken up by the showroom. This space will be trussed so as to have no interrupting posts, leaving an entrance of 12 feet in the building, but partitioned from the showroom by a heavy brick wall. A turntable will be installed in the rear on the ground floor, to facilitate moving vehicles, and an elevator will lift machines to the repair department on the second floor.

ELECTRIC TOWN CARRIAGES POPULAR.

Special Correspondence.

DETROIT, March 19.—This city, which, in the last two years, has established a reputation for susceptibility to automobile fashions, is going in strongly for electric town carriages, and since the snow has cleared from the ground the handsome broughams and victorias are making their appearance on the streets in surprising numbers. Society is evincing great interest in them. The Columbia electrics, handled by William E. Metzger, are having a large sale. Among the Detroit citizens who have them are: Broughams, W. A. Avery, David C. Whitney, Mrs. F. W. Demme and Mrs. J. S. Newberry; Victorias, W. A. Avery, David C. Whitney, W. T. McGraw, Russell A. Alger, Jr., E. Leydon Ford, J. B. Ford, Clifford Elliott, Truman H. Newberry, Cyrus E. Lothrop, F. B. Leland, J. Harrington Walker, T. G. Denby, H. B. Lewis, and Samuel T. Douglas.

Arrangements have been completed for the removal from Buffalo to Jamestown, N. Y., of the Duquesne Motor Car Company, which will occupy the factory of the Straight Manufacturing Company.



H. G. Martin has been appointed agent for Grout steamers in Providence, R. I., and its vicinity.

Preparations are being made by the Curtin-Hebert Mfg. Co., of Gloversville, N. Y., to begin the manufacture of automobiles in that city.

The Lozier Motor Company announces that it will soon begin the manufacture of automobiles at Plattsburg, N. Y., enlarging its machine shop to twice the present size.

A lecture on "Automobile Tires" was given before the Rhode Island Automobile Club at Providence, at a recent meeting, by E. R. Benson.

The Davis Automobile Co., of Providence, R. I., is moving into the salesroom and garage formerly occupied by H. B. Shattuck & Son.

C. A. Coey & Co., of Chicago, are putting in a complete stock of automobile supplies and will conduct a regular retail business in this line at 5311 Cottage Grove Avenue.

The price of its Olds size radiator has been changed from \$12.50 to \$15, by the Bliss-Chester Co., of Providence, R. I., to take effect April 1.

The Powell Automobile Company has absorbed the interests of the Anderson Millard Company, of Omaha, Neb., and is now the only concern dealing exclusively in automobiles in that city.

Ray D. Lillibridge, who handles the advertising for the White steam cars, has returned from a two-months' trip through the West, where he visited particularly the Pacific coast and Colorado.

A. G. McClary has leased quarters on Fifth Street, Defiance, Ohio, and will open an automobile garage and repair shop. He has the agency for the Olds, Cadillac, and Orient Buckboard. He will carry a full line of supplies and repairs and has secured a practical machinist to assist him.

John Wilkinson, of Syracuse, has commenced work upon two Franklin racing cars to be entered at the Empire track races May 30. It is expected that these cars will be much faster than that with which Mr. Wilkinson established a record for light cars at the same meeting a year ago.

Louis Ohnhaus has resigned the position of manager of the Capital Gas Engine Co., of Indianapolis, and together with A. L. Randall, will organize a company to conduct a large and fully equipped garage in Ft. Wayne, where they will handle several leading makes of automobiles. An option has been secured on a large centrally located building.

Gov. Myron T. Herrick, of Ohio, has placed an order for a 24-horsepower Peerless touring car through the Chisholm-Phillips Automobilia Co., of Cleveland, agents for Northern Ohio for the Peerless.

The Barnes Carriage Co., of New York City, which is doing a growing business in automobile repairs, has just bought the building which it occupies at 147 and 149 West 99th St.

F. A. Lockwood, formerly with H. B. Shattuck & Son, Boston, is now filling the position of superintendent of the department on repairs with the Central Automobile Exchange, of Worcester, Mass.

Fuller & Walsh have recently established a storage station and thoroughly equipped repair shop at 24 South Broadway, Yonkers, N. Y., and are handling a large part of the automobile business of that suburb of Greater New York.

Frank H. Fowler, who has been identified with the Knox Automobile Co., as head salesman for several years, has associated himself in the same capacity with the Matheson Motor Car Co., of Grand Rapids, Mich.

It is understood that a plot of ground has been secured in Flushing, Long Island, adjoining the Flushing Bay Boat Clubhouse, at Point Ruth, by Collins Marsh, of New York City, representing French capitalists, and that plans are being prepared for the erection of a large automobile factory.

The Lichtie Automobile Co., of Toledo, Ohio, is now comfortably housed in its new building at the corner of Jefferson and Michigan Avenues, where it conducts a first-class garage. A floor space of 60 by 120 feet is occupied. This company has the agencies this year for the National electric, Cadillac and Autocar.

R. M. Owen, general manager of the Automobile Storage Company of New York, was in Syracuse last Monday, where he made arrangements with the H. H. Franklin Mfg. Co. for the early delivery of a number of the new Franklin four-cylinder cars with tonneaus. Mr. Owen is the New York agent for the Olds and Franklin companies.

W. L. Gaylord, who runs the only automobile repair station in Redlands, Cal., has moved into more commodious quarters and is now situated on Central Avenue in a 40 by 70-foot building, and has installed new machinery which gives him ample facilities for repair work. Ten automobiles are now owned there with good prospects for the sale of a half-dozen more by July. Many tourists are there now, a score or more having taken their cars with them from the East.

C. H. Russell has accepted the position of head salesman with the Bruck Solidified Oil Co., 256 Dover St., Boston; having resigned a similar position in the automobile oil department of Alden Speare's Sons. Mr. Russell is well known to the automobile trade.

It is reported that Harrington's auto station No. 1, in Worcester, Mass., has taken the complete Columbia and Studebaker lines, which, with its Knox and Stevens-Duryea agencies, should put it in position to please the most exacting in quest of a medium priced car.

The newest automobile enterprise in Detroit is the Welch Motor Car Co., which will engage in the manufacture of gasoline engines, automobiles and parts. The company is capitalized at \$50,000, half of which has been paid in in cash and \$20,000 of which has been paid in in property. The principal stockholder is Arthur Pack, of Orchard Lake, Mich. George S. Hodges, also of Orchard Lake, Allie R. Welch, of Chelsea, Mich., are also stockholders. The company is a reorganization of the Chelsea Mfg. Co., of Chelsea, Mich., which manufactured the Welch Tourist gasoline car, exhibited at the Detroit and Chicago shows last year.

M. E. and C. C. Blood, formerly of the Michigan Automobile Company of Kalamazoo, Mich., are now at the head of the Blood Bros. Automobile Company, a recently incorporated company with a capital of \$7,000, and located at 114 North Edwards St., that city. They will put on the market a four-passenger surrey, with sliding gear transmission, giving four speeds forward and reverse gear, bevel gear drive and weighing not more than 1,200 pounds. In addition to the manufacture of automobiles, the new company will engage in manufacturing a new sliding gear for automobiles, which will be supplied to the trade.

Having kept its huge plant fully busy throughout the past winter in order to fulfill its announcement, made last winter, to make prompt deliveries of Winton 1904 cars this spring, the Winton Motor Carriage Company is now assembling them at the rate of one an hour, and expects to continue this rate until the season's supply has been produced. The early start and continuous work since last September have enabled some departments of the works to complete their quotas of parts and so the force in the woodworking department and machine shop has been reduced. Notwithstanding this endeavor to prevent the common congestion at the opening of the riding season, the indications are that the company's shipping facilities will soon be taxed to the limit.

Current News from New York.

Sunshine and mild weather during the past week combined to increase trade at the various agencies and branches in New York City, and its continuance will mean a great deal to automobile tradesmen generally. The winter has been one of the severest in the memory of even the "oldest inhabitant," with more snow than is generally allotted to Gotham, so that the selling of automobiles or even demonstrating has been sadly interfered with.

Whenever a bright day comes along, however, there is a rush for demonstrations by prospective buyers, which indicates very clearly the business that may be expected when the weather becomes settled and conducive to outdoor enjoyment. Moreover, good weather tends to increase the use of machines as proven on last Sunday, when the pleasant weather resulted in a wholesale use of power driven machines upon the local roads.

Most of the dealers in town are unable to get cars, and many sales are lost because immediate deliveries cannot be made. Most buyers prefer to get the car used in their initial ride.

Now that B. M. Shanley, Jr., owns the record Mercedes racer with which W. K. Vanderbilt, Jr., covered a mile at Ormond Beach in 39 seconds, and Barney Oldfield contemplates a trial over the wave-washed speedway next month against those figures, it is possible that a match race may be arranged. Oldfield was especially disappointed at the breaking of the crankshaft on the big Winton, just before his five-mile race with Vanderbilt. The big machine is now said to be ready for racing, and Oldfield has announced that he will take it to Florida to attack records during the elimination trials for the international cup race. The new owner of the 90-horsepower Mercedes also owns the 40-horsepower Decauville that Henri Page used on the local tracks last season. His operator is E. Fredericks.

Just what sum was paid has not been made public, but judging from reports of the original figures paid by Mr. Vanderbilt, it could not be far from a record price.

It is understood that the 90-horsepower Mercedes racer cost W. K. Vanderbilt, Jr., \$16,000 in Europe, to which must be added a duty of 45 per cent.

Mr. Shanley is an enthusiast on automobile racing and at Ormond showed his good sportsmanship by starting his car a number of times when he knew there was no chance of winning, owing to the machine not being at its best.

Roads to Philadelphia are in anything but good condition just at present, judging from a ride made last Sunday by Samuel Brock driving a 12-horsepower Georges Richard-Brasier car. In the machine were Mr. and Mrs. Hervey and Miss Marion Randall. The party went through

Staten Island, the roads being poor to Tottenville. From Elizabeth to Metuchen they were good, but from that point to New Brunswick the car had to go through mud almost up to the wheel-hubs. From there to Trenton, the roads were fairly good, but from Bordentown to Camden the highways were described as execrable.

The very latest in the line of jailing automobilists for speeding, appeared last week, when two chorus girls offered to give their diamonds to keep their chauffeur out of jail. The trio were arrested on the east drive in Central Park and were taken to the Arsenal, where the girls, who declined to give their names, offered their jewelry as bail. "They looked the real stuff, too," remarked the Sergeant after he had declined the offer.

The amount of shopping done recently by city officials, is explained by the announcement that the Board of Aldermen has taken favorable action, upon the request of Fire Commissioner Hayes, for permission to purchase, without advertising, two automobiles for the Fire Department, costing not more than \$4,000 each. One will be used by Fire Chief Croker in Manhattan and the other for the deputy chief in Brooklyn. In consequence, city officials have been making a round of the automobile agencies, looking for proper machines.

Upon his return from the South, Augustus Post, of the A. A. A. touring committee, said he had taken a trip over Virginia Beach and had found it to be in much better condition than when the regular inspection party looked it over. He admitted that it will not rival Ormond Beach for record speed, but thinks it will be popular for five or ten mile races.

Next year is the last from which the Automobile Club of America will receive any benefit from the Automobile Show at Madison Square Garden. The three-year contract expires next year. The agreement called for a division of the proceeds as follows: 30 per cent. to the club; 30 per cent. to the National Association of Automobile Manufacturers, and 40 per cent. to the Madison Square Garden Company.

Saratoga and the cities along the East Coast of Florida are preparing for automobile boat racing. The lake at the New York summer resort supplies a good course of five miles, while Lake Worth at Palm Beach and the Bay at Miami provide plenty of room for racing in Florida waters.

On May 1 the American Motor League will move its headquarters from the American Tract Society Building to the Vanderbilt Building, where additional room will be had for the increasing volume of work of the organization, headed by Isaac B. Potter.

The National Association of Automobile Manufacturers has decided to renew its lease for two years of the present quarters in the Transit Building, on Forty-second Street.

Oldsmobiles of the 1904 model have been received at the New York branch at Thirty-eighth Street, and have been in the nature of a surprise because of there being entirely different from the models exhibited at the show. The power has been increased from four to six horsepower, the body and seat are much wider, the cylinder and water jacket are cast in one piece, all the working parts are heavier and the car has hub brakes.

M. M. Belding, Jr., of the Automobile Club of America, has bought a Peerless touring car for the third season and it was delivered by G. C. Wridgway last week. Mr. Wridgway has secured the rights for the Crossley car made in England.

To enable one to quickly find an automobile's speed in miles per hour from the time per mile, the American Darracq Automobile Company has prepared a clever table which is distributed gratis. The well-arranged card is the work of E. D. Winans, the company's advertising manager, who has copyrighted it. It consists of columns of times and miles and by following right-angle columns to the intersection, the equivalent in miles per hour is found. Copies can be had for the asking.

Colonel Pardee of the Packard Motor Car Company's New York branch, is awaiting the arrival of ten Packard touring cars, which are due to be shipped from the factory next week, for orders from New York motorists. The demand for the Packard car, and the spirit in which it has been received by motorists generally, indicates very clearly that the company has struck the happy medium, in its product of a powerful light-weight touring car at \$3,000.

Smith & Mabley have taken an order from M. C. Herman for a 36-foot automobile boat. Mr. Herman is the owner of the 70-horsepower Panhard automobile that supplied some fast miles at Empire track last year.

Next Sunday the Long Island Automobile Club will hold a run to Old Westbury, Long Island. Last Sunday the first run of the season was held to Canarsie.

The muffler which is placed on the "V. and D." car now being handled in America by the Central Automobile Company, of this city, won the first prize in the competition organized by the Automobile Club of France.

The Cameron car, which retails at \$650 and is made by the United Motor Corporation of Pawtucket, R. I., will be handled in New York by Mr. Cornell, of the Tennant Tire Company. It has a single cylinder air-cooled motor and a sliding gear transmission.

Seaton, Henderson & Gillies have taken the agency in New York for Buckmobiles, with headquarters at 1900 Broadway, corner Sixty-third Street, where the business will be conducted under the name of the Buckmobile Company. The concern will also sell automobile boats, the hulls being built by the Rockaway Boat Company.

The Winton touring car fitted with a delivery wagon top which has traveled New York City's streets for some time carrying cash registers for the National Cash Register Company, is giving much better service than could be supplied by horse-driven vehicles.

James McNaughton, formerly in the automobile business in New York, is now at the Pope Manufacturing Company's factory in Indianapolis, where Pope-Waverley machines are made.

GOLDEN GATE MINOR MENTION.

Special Correspondence.

SAN FRANCISCO, March 15.—Arthur Wright, of Stockton, has made a contract with F. A. Jacobs whereby he undertakes to deal in Rambler exclusively during 1904. Dr. George Burke, of Sissions, Cal., and H. C. Merriman, of Exeter, Cal., have purchased Rambler touring cars from Mr. Jacobs. J. D. Peters, of Atwater, Merced County, is another recent purchaser of a Rambler touring car.

James L. Flood has ordered a four-cylinder Pope-Toledo touring car from the National Automobile Company of San Francisco. B. M. Merchant, of San Jose, has received his four-cylinder Toledo, and J. B. O'Brien a 20-horsepower Knox from the same company.

The Pioneer Automobile Co. has made sales recently of a 1904 Winton touring car, a Locomobile, a Stevens-Duryea, a Standard Oldsmobile runabout, a Baker electric, an Oldsmobile tonneau, and an Oldsmobile French type runabout. Several of the above cars have been bought by the Stockton Automobile Co., of Stockton, Cal.

The Automobile Transit Co., which has established itself on Union Square, has ordered two additional two-cylinder Toledo touring cars for rental purposes.

The Mobile Carriage Co., which recently moved into its new establishment at the corner of Gough Street and Golden Gate Avenue, facing Jefferson Square, has the contract for furnishing automobile omnibuses to the new St. Francis Hotel to convey passengers to and from the trains and steamboats. H. C. Tilden, one of the directors of the company, recently drove 300 miles in his Pierce Arrow touring car without having to leave the seat to make any adjustment.

Some San Francisco young women gave an original sort of party recently. After a pleasant ride in automobiles, the party of sixteen returned to the hostess' house for an "Auto Luncheon." In the center of the

table was a miniature speed track with four automobiles, each with a chauffeur and a doll in it, carrying a pennant with the name of an eastern or local champion on it. There were also a judge's stand and a judge at the finishing line. On the cards indicating the guests' places were water-color sketches of autos with chauffeurs, and the icecream was in the shape of tiny green autos with operators on the seats. The call to luncheon was given with an automobile horn.

R. E. Olds, of the Olds Motor Works, has been visiting California. He spent some time in San Diego and later came to this city.

The Scott-Blakeslee Winton Renting Agency, which has its headquarters in the garage of the Pioneer Automobile Co. uses Winton touring cars only, in its passenger service. It is making arrangements for the employment of several additional touring cars.

John D. Spreckles, proprietor of the San Francisco *Call*, already the owner of a White touring car, has just bought two more White's.

Ray D. Lillibridge, advertising agent for the White touring car, has just paid visits to San Francisco and Los Angeles. A recent purchaser of a White touring car is George H. Lent, of the real estate firm of Hooker & Lent.

Dr. J. Copley Stinson, a member of the Board of Health, has bought a Pierce Arrow touring car for use in his medical practice.

Clarence A. Postley, a well-known San Franciscan, has ordered a 40-horsepower Panhard, to be delivered in Paris and used on a trip over the European continent.

PLAN BIG WASHINGTON GARAGE.

Special Correspondence.

WASHINGTON, D. C., March 19.—There has recently been a reorganization of the National Capital Automobile Company, local representative of the Oldsmobile, Peerless, Packard, and Franklin. The management is now in the hands of John C. Wood, who has graduated from the bicycle trade. Frank Libbey has been promoted to the position of head salesman. Manager Wood is planning to increase the facilities of his company by the erection of a new garage. The present one, although the largest in Washington, has been found too small to accommodate the increasing business of the company. It is intended to make this new garage one of the finest in this section of the country, expending between \$36,000 and \$40,000 to this end. Interesting features will be separate reception-rooms for women and men, a well-stocked library, chauffeurs' room, baths, private lockers and other conveniences.

This company has just organized an automobile cab service under the name of the Washington Auto-Cab Company,

of which Mr. Wood is also manager. Ten Oldsmobiles are at present used in this service, which is now principally for tourists and theater-goers, but later on it is to be extended to give a general service to professional and business men. The Oldsmobiles used are of the runabout type with a seat in the rear for the operator. This rear seat is considerably higher than the seat for passengers, two of whom can be carried. The rates for these vehicles are reasonable and the service is excellent.

SYRACUSE COMPANY INCORPORATED.

Special Correspondence.

SYRACUSE, March 21.—Papers of incorporation for the Central New York Garage Company were forwarded to Albany today by the company's projectors who plan to manufacture auto boats driven by gasoline engines in addition to handling many lines of motor cars.

The company will be incorporated for \$10,000, but this will be increased, it is expected. The officers are: President, Edward I. Rice; vice-president, C. C. Truesdell; secretary and treasurer, C. W. Berker; general manager, George E. DeLong.

For the present the company is occupying the defunct Central City Automobile Company's garage, but has leased the building in South Warren Street formerly occupied by the Syracuse Automobile Company. It has twenty "boarders" at present. It has also a large repair shop and building for storage purposes.

FACTORY OPEN TO VISITORS.

That interest in the construction of automobiles has developed greatly during the last two years, is plainly evident from the keen interest taken in the chassis that have been exhibited in the shows and the popularity of the automobile instruction courses arranged by the Y. M. C. A.'s in Boston and other cities. Until very recently manufacturers have been reluctant to disclose their factory methods and all of the mechanical details of the construction of their cars, but this secretiveness is fast disappearing and it is now possible for almost any one interested to inquire into any car as minutely as desired. One of the largest and best-equipped plants in the country—that of the Locomobile Company of America, at Bridgeport, Conn.—is open to inspection by visitors, who, however, are requested to advise the management of their coming so that arrangements can be made to conduct them through the various departments without delay or inconvenience to either party. Many inquiries have been received by the company recently from people asking if the factory is open to visitors, and it is believed that an inspection of the automobile in its various stages of development will assist the prospective purchaser to the best possible appreciation of its constructional features and merits.

INFORMATION FOR BUYERS.

COLUMBIA LAMPS.—Acetylene gas side-lights and headlights, manufactured by the Hine-Watt Mfg. Co., 58 Wabash Ave., Chicago, Ill., are shown in a catalog recently received. These are made with generators attached and separate. Special features of the lamps and generators are an automatic regulation of the water feed, and a gas valve which regulates the height of flame and by which the gas can be turned off completely at any time, further generation of gas ceasing at once. In addition to acetylene automobile lamps, the Hine-Watt company markets an oil side lamp, a bicycle gas lamp, and an automobile jack.

MARINE MOTOR.—A 3-horsepower four-cycle marine motor, weighing 235 pounds and fitted with a special reversing device is shown and described in a little book issued by the Royal Equipment Co., of Bridgeport, Conn. The same engine is made in 2, 3 and 4 cylinder sizes also, up to 12 horsepower. The company also manufactures 1 and 2 cylinder stationary engines, and 1, 2, 3 and 4 cylinder automobile engines, ranging from 5 to 20-horsepower. The reversing mechanism on the marine engines consists of two cams, one operating the valves to turn the engine forward and the other to run it backward, a small lever serving to make the change. This arrangement enables a solid propeller to be used without reversing gear on the shaft.

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Special Notices.

Advertisements of second hand vehicles or parts for sale, or for Positions Wanted, inserted under this heading at 10c per line of about six words. Remittance must accompany copy.

FOR SALE—1903 Orient Buckboard; fine condition, \$250. E. S. Youse, Reading, Pa. Apr. 9

FOR SALE—\$750; Model D Crestmobile; run less than 500 miles; \$495. Geo. S. Dales, Akron, O. Apr. 2

FOR SALE—1 Oldsmobile, A 1 condition, trussed axles, new curbureter, etc., as good as new. Price \$400.00, or will exchange for Stevens-Duryea, in good condition. Address Box 756, New Britain, Conn. 26

FOR SALE—Cadillac, with tonneau, in very fine shape, \$600.00. 1 Cadillac without tonneau, individual seats, brass lamps, brass horn with tube and screen, all fine order, \$500.00. 1 Orient Buckboard, just been thoroughly overhauled, varnished and painted, lamps new, fine kit of tools, \$250.00. A. R. Jewett, Abington, Mass. 26

FOR SALE—1903 WINTON, in good condition; full touring equipment; canopy top, with glass front, side curtains and brass baggage rail; largest size baskets; best "Neverout" lamps, heavy sprag; extra tires; price \$2,000. Address, Joseph H. Bromley, Jr., N. Chelton Ave., Germantown, Phila., Pa. Apr. 16

WANTED—Second hand steam run-about; or Stanhope. Must be cheap for cash, and engine in good condition. Box 14, Niagara Falls, N. Y. 26

FOR SALE—1903 Knox; painted red; with top; in excellent running condition; at bargain price. C. W. H., THE AUTOMOBILE. Apr. 2

FOR SALE—1903 Thomas touring car, Model No. 18; fine condition; low price for cash. Address B. T., care THE AUTOMOBILE. 26

FOR SALE—Four-cylinder Pope-Toledo touring car; full equipment (new); price, \$3,200; immediate delivery. Address J. T. care AUTOMOBILE. 26

FOR SALE—Holley touring car in first-class shape; this is a-1, fine, light car and will be sold at a bargain. Write F. Herbst, Wilmington, N. C. tf

FOR SALE—Elmore runabout, 6-hp. double-cylinder engine; newly painted; in good running order; price, \$350; no trade. B. T. Cary, Zanesville, O. Apr. 2

FOR SALE—1903 Union; new last June; sold through no fault; want 1904 model. Address Peter Woll & Sons Feather Co., Philadelphia, Pa. Apr. 2

FOR SALE—Locomobile; new tires; never been run since put on; bought new in 1902; highest cash offer this month gets it. W. E. Rudy, Lima, O. 26

FOR SALE—1903 Searchmont at half cost price; in good condition; might take smaller car in part payment. F. A. W., 624 Broadway, Brooklyn, N. Y. 26

FOR SALE—1903 Oldsmobile; wood wheels; top; lamps; a1 condition; reason for selling, have larger car; bargain at \$425. E. F. Goodman, Union, S. C. 26

FOR SALE—12-passenger break, new; or trade for 1903; Winton also; steam runabouts and touring cars cheap. T. Carl, 1610 Congress Ave., Houston, Tex. 2

FOR SALE—1903 Stanley, with 1904 improvements; newly painted and in good condition, \$475; address H. R. Borman, 1727 N. Broadway, Baltimore, Md. A. 2

FOR SALE—Franklin car; new in October; with tonneau; run less than 500 miles; owner bought touring car.; will demonstrate. C. W. H., THE AUTOMOBILE. Apr. 2

FOR SALE—1903 Winton, \$1,450; Cadillac, \$490; up to date Autocar, \$1,400; surprising values and all fully guaranteed. J. P. Schneider, 191 Jefferson St., Detroit, Mich. 26

FOR SALE—A Thomas touring car, No. 16, 1903 pattern; brass trimmings; in fine condition; need the money to use very badly; will sell for \$525. C. L. Templer, Syracuse, N. Y. tf

FOR SALE—An Oldsmobile, brass trimmings, Dos-a-dos seats; \$50 worth of extra lamps; need the money badly; will sell at once for \$425. F. S. Baldwin, Syracuse, N. Y. tf

FOR SALE—Orient Buckboard; not run over 300 miles; crank starter with fiber pinions; first check of \$200 takes it; reason: ordered larger car. Fred Bittman, Johnstown, Pa. 26

FOR SALE—1903 Wintons, almost new, \$1,600, \$1,700; new Mobile, \$400; Olds, \$300; Rambler, \$300; Long Distance tonneau, \$750; Knox, \$800. C. O. Reichert, New Haven, Conn. tf

FOR SALE—Ford automobile with tonneau; run less than 100 miles; never in the mud; Dietz side lamps; new to me from the factory in December, 1903; \$750. H. M. Reed, Lima, O. 26

FOR SALE—Two Model "E" Ramblers complete with brass horns and lamps; one with top; both in fine condition; very attractive prices for immediate sales. E. S. Youse, Reading, Pa. Apr. 9

FOR SALE—1903 Cadillac with tonneau, Dietz brass lamps, brass horn, rear signal, tires never punctured; car used under 700 miles; for immediate sale, \$550. E. S. Youse, Reading, Pa. Apr. 9

FOR SALE—Model E Rambler, run less than 500 miles; guaranteed in good running order; detachable tires, lamps, horn; selling to buy touring car; price, \$450. A. F. Mall, Aurora, Ill. 26

FOR SALE—\$725.00 buys my Model 18 Thomas Touring Car, in perfect condition with full equipments. Only cash offers considered; must sell immediately. Karl A. Hinig, Coshocton, Ohio. Apr. 2

FOR SALE—Cadillac; late 1903 model, with tonneau, lamps and horn; run one month; hardly a scratch on it; has been run only 400 miles; wish a larger machine. J. F. Kellogg, Avon, N. Y. Apr. 2

FOR SALE—1903 Peerless; first-class condition; baskets, Rushmore lights, clock, Veeder odometer, extra tires and inner tubes, large repair outfit; price, \$1,800. Dr. R. M. Garfield, Worcester, Mass. Apr. 2

FOR SALE—Cheap, 28 by 2 1-2, drop center, steel rims, for wire wheels, drilled, 40 holes, for 5 lug tires; enameled in colors, or in the rough. Prescott Auto Mfg. Co., 90 West Broadway, New York City. 26

FOR SALE—1903 Haynes-Apperson runabout, with top and fixtures; bought last October; used one month; in perfect condition; a new machine; price, \$1,000. M. S. 355 Central Avenue, Newark, N. J. 26

FOR SALE—1903 Searchmont; driven not over 500 miles; new 4 1-2 inch detachable tires, two gas lamps, two oil lamps, rear signal, side baskets; special price for immediate sale. E. S. Youse, Reading, Pa. 9

FOR SALE—1903 Winton in first-class condition; has removable canopy top with glass front, curtains and baggage rail; large side baskets, Veeder odometer, spare tires, tools, etc. Address G. L. M., care THE AUTOMOBILE. 26

FOR SALE—1903 Cadillac tonneau; guaranteed in good running order; lamps and horn; bought late in July; has been repainted and varnished; owner wants larger car; price \$575. Ed. S. Clark, 272 Freeport St., Boston, Mass. 26

FOR SALE—Two Foster steam touring cars with platform spring; one with adjustable front seat and lazy back; both in good condition; price, \$300 and \$250; write for photograph. J. H. Shale, 72 North St., Rochester, N. Y. 26

FOR SALE—A new horizontal engine Stanley car; red leather upholstery; panel seat; never used; price, \$575; 1903 French DeDion touring car, cost \$2,500 to import, price, \$1,650. Address A. N. Locke, 35 Dearborn St., Salem, Mass. tf

FOR SALE—Fine 2-cylinder gasoline touring car; 10-horsepower; 1,200 pounds; large tonneau; divided front seat; two brass lamps and horn; Goodrich detachable tires; immediate sale, \$700; exceptional bargain. E. S. Youse, Reading, Pa. Apr. 9

FOR SALE—Mobile of America runabout; first-class condition; cost \$750; run very little; first check takes it at \$300; one new gasoline runabout, complete, except levers; about one or two days' work complete ready to run, \$375. Evans Mould & Machine Co., Uniontown, Pa. 26

FOR SALE—Six 1903 Wintons; 10 Olds; White steamer; Cadillacs; Thomas; Electrics; Peerless; Mobiles; Franklins; too many to list in this space; write for our new February catalogue of 60 bargains. Fisher Automobile Co., 330 N. Illinois St., Indianapolis, Ind. Apr. 16

FOR SALE—1903 Oldsmobile, bought in July; has Midgley tubular steel wheels, Goodrich detachable tires, a good top and a dos-a-dos seat; looks like new and is in A1 condition throughout; price, \$475; a really fine bargain for a quick buyer. Heyer Automobile Station, Tel. 105 B., Bloomfield, New Jersey. 26

FOR SALE—Forty-horsepower Decauville racing car; in first-class condition. this is the car that was operated by Mr. Henri Page, and which holds the World's record (15 minutes 7 2-5 seconds) for 1,800-pound car, for 15 miles on a circular track; car can be seen at No. 364 Halsey Street, Newark, N. J. B. M. Shanley, Jr. Apr. 2

FOR SALE—New 12-passenger brake (gasoline); canopy top; side curtains and top; new Duryea four-wheel phaeton, jump spark, pump and coil; 1902 Stevens-Duryea, with Stanhope top; 1903 sprockets and chain; in fine condition; what are we offered? Auto Machine and Repair Company, 176 South Main Street, Wilkesbarre, Pa. 26

FOR SALE—Six 1903 Wintons, A1 shape; price \$1,350 to \$1,950; one 1903 Peerless, A1 shape, \$1,250; one 1903 Thomas tonneau, new, \$650; one 1904 White steamer not yet delivered, \$2,200; one 1903 Franklin, new, \$1,250; 40 others, all kinds and prices; write for catalogue. The Fisher Automobile Co., 330 N. Illinois St., Indianapolis, Ind. Apr. 16

FOR SALE—One 1903 latest model Autocar, high tonneau same as 1904 model, everything guaranteed in perfect order; two 1903 regular model Autocars, all in perfect order. \$900 and \$950; one 1902 Oldsmobile, fair condition, \$250; one 1902 Oldsmobile with top, acetylene lamps, box, basket, etc., perfect order, \$350. John Van Benschoten, Poughkeepsie, N. Y. 26